

Food Science Sourcebook

Second Edition

Part 1

Terms and Descriptions

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Dedicated to Frances

Preface to second edition, titled *Food Science Sourcebook*

It was realized, even prior to the printing of the first edition, that a book of this magnitude would never be complete and that at some point a line must be drawn and data currently available must be organized. This was done to get the first edition into print. However, prior to its printing, revisions and new data were becoming available for inclusion in the second edition (now titled *Food Science Sourcebook*), which includes most of the information in the first edition plus twelve additional years of collecting data.

The author wants to thank the many readers, colleagues, and students who have made suggestions on how the manuscript could become more useful. Most of the suggestions have been incorporated into this edition. Like the first edition, the second edition is certainly also not complete, and the author would certainly appreciate communications from readers and colleagues for suggestions and recommendations on how additional editions might be improved.

HERBERT W. OCKERMAN
Columbus, Ohio

Preface to first edition, titled *Source Book for Food Scientists*

The *Source Book for Food Scientists* materialized as the result of accumulating current data and relevant facts in the field of food science and technology. Since reference sources are often scattered, there has been a need for a one-volume data book of this type. A number of my colleagues have urged me to make my data bank available to others, hence this volume.

Such a book could be organized as follows: a dictionary interpretation of terms used in food science and technology; tabular material giving detailed information on food composition and properties; chemical formulas and structures; uses of foodstuffs; harvesting; slaughtering and related information concerning the meat industry . . . , in fact, almost any and every type of subject one might encounter dealing with food.

I have organized the material in two parts. Part 1 covers what I call my "personal dictionary" of pertinent information. Part 2 contains the tabular and general information that broadens the base of Part 1 with factual data.

I have found it invaluable. My earnest desire, now that the material is to be published, is that it will equally serve other food scientists and technologists working in various capacities in industry, government, and the academic community.

I wish to acknowledge the encouragement given me by Dr. Donald K. Tressler, President, AVI Publishing Company, and to express my appreciation for his belief and support in this project.

It is also a special pleasure for me to acknowledge the editorial assistance provided by Mrs. Lucy Long, Senior Editor at AVI, and to Mr. Gessner Hawley, Editor of the *Condensed Chemical Dictionary* and Co-editor of the *Encyclopedia of Chemistry*. It was their collaboration and assistance that transformed a very rough draft into a publishable manuscript. However, errors of omission or commission are mine alone to bear.

I would also like to thank the scores of publishers and authors who have granted me permission to reprint their copyrighted materials. Thanks are also extended to the many authors and contributors to government publications for information obtained from those sources. Specific acknowledgement is noted for each source as it appears in this book.

I also wish to extend grateful thanks to my wife, Frances, for her assistance in typing and proofreading. Her patience and help contributed much to the completion of this book.

This is the First Edition of the *Source Book* and I would greatly appreciate communications from readers for suggestions or recommendations on how to improve it and also to call to my attention errors that may be corrected in the next printing.

HERBERT W. OCKERMAN
Columbus, Ohio

Jan. 1, 1978

How to Use The *Food Science Sourcebook* (important to obtain maximum utilization of this book!)

For ease of retrieval, this book has been organized into two parts. *Start your search in Part 1* and this, if necessary, will lead you to Part 2 by extensive cross-references. Part 1 consists of dictionary terms and descriptions wherein the definition usually contains detailed information on the subject and, where feasible, some data concerning its use or properties. With the majority of these *Sourcebook* terms and description in Part 1, there is a reference to Part 2, giving a list of subjects for further information. (See the breakdown of the **artichoke** entry below.)

Part 2 is composed of alphabetical sections containing food composition, properties, and general data designed as the basis for the initiation of a broader search for further information relevant to the dictionary term given in Part 1. Part 2 is, in truth, a "data book" of tables, figures, charts, formulas, etc.

Part 1 will lead the reader to a pertinent, appropriate section in Part 2, or one can refer to Part 2 independently of the Part 1 dictionary description because it is organized alphabetically; however, some information will be missed if the second approach is used.

Term	artichoke (French; globe; true; <i>Cynara scolymus</i>)			Generic name	Growth preferences
Description	A deep-rooted, 3- to 5-ft perennial, thistle-like plant, belonging to the daisy or thistle family; grows well in a cold, moist climate; the flower heads (green to purplish; small to 5-in. diam.) and "chokes," or unopened, tightly clinging fleshy petals, have scales with fleshy bases. 650 seed/oz; thin to 2-3 ft apart in rows 3-4 ft apart. In season Nov.-May; harvest when buds are compact and refrigerate as soon as picked.				
Growing information					
Size information	Size	Use			
	Small	Pickling, stews, casseroles			
	Medium	Salads			
	Large	Stuffing			
Type information	Type	Where grown	Varieties		
	Conical bud	Europe	French or green French Thistle or prickly Violet		
	Globular head	U.S. and Europe	Giant bud Green or white globe Red Dutch Violet bud		
Varieties	Other varieties	Commercial growth area	Cooking		
	Creole	Southern Louisiana			
	Grande Beurre		Boiled and served with melted butter		
	Green Globe	California Gulf Coast	Most popular		
	Gros Vert de Laon				
	Purple Globe				

xii How to Use The *Food Science Sourcebook*

Portion eaten	The fleshy base of the scales is eaten raw, baked, fried, stuffed, served with sauces, or preserved in oil; the base of the flower head and the central leaf stalk are also eaten.	Preparation methods
Canned information	Canned and frozen styles: Whole (one per can) Topped Hearts (packed in brine, vinegar, sauces, or olive oil) Bottoms	
Cooking information	Cooking: trim ("choke," or scaly part discarded), boil 30–50 min or until tender in acidulated water	
Weights	1 large artichoke cooked and drained = 15 oz 1 artichoke heart = 15 g 1 serving = $\frac{1}{2}$ lb = 1 med. artichoke	
Composition	Composition: moisture 86%; protein 3%; fiber 11%; ash 0.8%; pH 5.6 Store at 31–32°F, at 60–95% relative humidity; use in 1–2 weeks.	Storage information
For more information	See Chinese artichoke ; Jerusalem artichoke ; other artichoke entries See Part 2: Iron; Minerals, Food; Niacin; Phosphorus; Potassium; Potassium-Rich Foods; Vegetable Composition; Vegetable Plants; Vegetables, Canning Dates	Reference to Part 1 sections C, J, and A Reference to Part 2 sections I, M, N, P, and V

Other ready-reference material that is to be found in the book:

Inside the front cover is a table for temperature conversion from Fahrenheit to Celsius or vice versa.

Inside the back cover will be found conversion factors for units of weight, units of liquid measure, oven temperatures, and units of volume.

And following is a list of the most-often-used abbreviations for quick reference.

Common Abbreviations

NOTE: Where the abbreviation denotes either the singular or plural, the spelled-out version of the abbreviation carries an asterisk (*).

A	ampere*	dwt	pennyweight
AAAS	American Association for the Advancement of Science	doz	dozen*
AOAC	Association of Official Analytical Chemists	dr	dram*
apoth.	apothecary	e.g.	for example
approx.	approximately	EMF	electromotive force
atm	atmosphere	equiv. wt.	equivalent weight
at. no.	atomic number		
at. wt.	atomic weight	°F	Fahrenheit
avg.	average	FAO	Food and Agricultural Organization, United Nations
avdp.	avoirdupois	FDA	Food and Drug Administration
bp	boiling point	ffa	free fatty acid*
Brit.	British	fl	fluid
Btu	British thermal units	FNS	Food and Nutrition Service, US Department of Agriculture
bu	bushel*	FNB	Food and Nutrition Board of the National Academy of Science—National Research Council
cal	calorie*	fp	freezing point
°C	Centigrade or Celsius	fpm	feet per minute
ca.	circa or about	fps	feet per second
cc	cubic centimeter* (also cm ³)	ft	foot*
CAMP	computer assisted menu planning		
CFN	Council on Food and Nutrition of the American Medical Association	g	gram*
cg	centigram*	gal	gallon*
chem.	chemical or chemistry	gpm	gallon* per minute
cl	centiliter*	gr	grain*
cm	centimeter*		
CP	chemically pure		
cps	cycles per second	h	hectare*
cu.	cubic	hg	hectogram*
cwt	hundredweight	Hg	mercury
		hhd	hogshead*
d	density	hp	horsepower
dc	direct current	h	hour*
deg	degree*		
df	degrees of freedom	i.d.	inside dimension
dg	decigram*	i.e.	that is
diam.	diameter	imp	imperial
dag	dekagram*	in.	inch*
dal	dekaliter*	IU	International Units
dl	deciliter*		
dm	decimeter*		

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J	joule*	PER	protein efficiency ratio
		pk	peck*
		ppm	parts per million
K	kelvin	ppt	precipitate; parts per trillion
kcal	kilocalorie*	prob.	probable
K _{eq}	equilibrium constant	psf	pounds per square foot*
kg	kilogram*	psi	pounds per square inch*
km	kilometer*	psia	pounds per square inch atmosphere*
kW	kilowatt*	pt	pint*
l	liter* (more often spelled out to avoid misinterpretation with numeral one)	qt	quart*
lat	latitude		
lb	pound*	r	correlation
		R	Réaumur
m	meter*	rd	rod*
M	Molal	RDA	recommended daily allowance
max.	maximum	RH	relative humidity
MDR	minimum daily requirement (no longer used; see RDA)	rpm	revolutions per minute
med.	medium		
mg	milligram*	s	second*
MHz	megahertz	sig.	significant
mi	mile*	sp.	specific
MID	Meat Inspection Division, US Department of Agriculture	sp. gr.	specific gravity
min.	minimum	sq.	square
ml	milliliter*		
mm	millimeter*		
mo.	month*	tbsp	tablespoon*
mol. wt.	molecular weight	temp.	temperature
mp	melting point	tsp	teaspoon*
mps	meters per second		
mV	millivolt*	USDA	United States Department of Agriculture
No.	number (when followed by numeral)	USP	<i>US Pharmacopeia</i>
NFE	nitrogen free extract		
NIH	National Institutes of Health	vit.	vitamin (rarely used)
NMR	nuclear magnetic resonance	vol.	volume
NPU	net protein utilization		
NPV	net protein value		
NRC	National Research Council		
NSF	National Science Foundation	wt.	weight
o.d.	outside dimension	yd	yard*
opt.	optimum, optional	yr	year*
oz	ounce*		

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PART 2

Food Science Sourcebook Food Composition, Properties,
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Temperature Conversion Table Inside Front Cover

Weights and Measures Conversion Tables Inside Back Cover

Part 1

Terms and Descriptions

A 1) Abbreviation for absolute temperature. 2) Abbreviation for acre

Å Abbreviation for angstrom

α_w See water activity

a See ampere

a- Prefix meaning not or without

-a Latin suffix making some words singular and others plural

aalrauchmettwurst Pork salami

aarey A semihard, buffalo's-milk cheese

aarlborg A clear, schnapps-type spirit with a high alcohol content

AAS Atomic absorption spectrometry

ab- Prefix meaning away from

abacaxi See pineapple

abaisse A thin, undercrust pastry

abalone [awabi; muttonfish; ormer; paua; sea-ear; *Haliotis cracherodii*; *H. iris* (paua from New Zealand); *H. rufescens*; *H. splendens*; *H. tuberculata* (Channel Islands)] A large (1-ft) mollusk or Pacific sea snail with a single, flattened shell. The "foot," or central muscle, is eaten and is somewhat tough (if overcooked) but has a delicate clamlike flavor. The meat is firm, creamy white, and mild. It is available fresh, dried (brined, cooked, smoked, and then sun-dried), dry shredded, dry powder, salted, canned (in brine), frozen, and as soup. It may be used in chowders, soups, canapés, sandwiches, and for stir-frying. The shells are a source of mother of pearl and blister pearl.

Composition: moisture 76%; protein 19%; fat 0.5%; carbohydrate 3.5%; ash 1.6%

See Part 2: Minerals (Trace), Food

abampere

1 abampere = 10 amperes (A)

See ampere

A-band Dark bands (anisotropic) in muscle fiber; they contain all the myosin and the ends of the actin filaments.

abandon See expire

abattoir Slaughterhouse

abbaye de citeaux A rich, creamy, soft, French, monk's cheese

abbot A fish called an angle shark (*Squatina squatina*) or anglerfish (*Lophius piscatorius*)

abcoulomb

1 abcoulomb = 2.998×10^{10} statcoulomb

ABC's Letter- and number-shaped pasta that is $\frac{1}{4}$ in. tall

abdominal Refers to the stomach, or belly, between the thorax and pelvis

abductor A muscle that draws a limb, wing, or other body appendage away from a medial position

abdug Sour diluted milk that is often salted, has spices and herbs added, or is sweetened

abe nego A red palm oil

Aberdeen A soft, mellow, creamy, Scottish cheese

Aberdeen-Angus Commonly referred to as Angus. Solid black breed of beef cattle that has no horns; origin, Northeastern Scotland; imported into America by G. Grant of Victoria, Kansas.

See Part 2: Beef and Dual-Purpose Cattle; Gestation Periods

Aberdeen-Angus crosses

Angus \times Horned European breeds \rightarrow nearly always polled

\times Brahman \rightarrow 95% female polled

\times red-bodied cattle \rightarrow black with white markings of the other breed

\times white Shorthorns \rightarrow blue-gray (mixture of white and black hair)

\times Charolais \rightarrow black or "smokey" white

Aberdeen-Angus-Hereford cross Offspring will be polled and have a white face and black body; if two of the above offspring are crossed, the following ratio of offspring will result:

27 polled, white face, black body

9 horned, white face, black body

9 polled, entirely black

9 polled, white face, red body

3 horned, entirely black

3 horned, white face, red body

3 polled, colored face, red body

1 horned, colored face, red body

Aberdeen-Angus, Red Red color is inherited as a single, one-gene recessive trait in Angus cattle.

Red \times Red \rightarrow always Red

aberdenn buttery A wheat-flour roll

abertam A golden, hard, salty, pressed, German cheese made from sheep's or goat's milk

abfarad

1 abfarad = 1×10^9 farads (F)

= 1×10^{15} microfarads (μF)

See farad

abhenry

1 abhenry = 1×10^{-9} henry (H)

= 1×10^{-6} millihenry (mH)

See henry

abifo Chindanda made from maize flour and plantain

abijau An alcoholic beer

4 abiu

abiu A South American fruit whose edible pulp (eaten stewed or grilled) is covered with a red capsule

ablongo Steamed chindanda made from maize or rice and plantain; flavored with onions, pepper, and ginger

abnormal Not normal; unnatural; not typical; unusual or irregular

abodoo An acidic maize dumpling

abohm

$$1 \text{ abohm} = 1 \times 10^{-6} \text{ ohm } (\Omega) \\ = 1 \times 10^{-15} \text{ megohm } (M\Omega)$$

See **ohm**

abolo Acetic, steamed or baked maize dumpling (wheat flour may be added)

abomasum (glandular stomach; true stomach)

The fourth section of the ruminant stomach, which is located on the right side; often called the true stomach or rennet bag; it functions very much like the entire monogastric stomach; a bovine abomasum may have a capacity from 2 to 5 gal

abondance (tomme d'abondance) A 20- to 40-lb paste to semihard, cow's-milk cheese, with a washed rind, small holes, and mild to full fruity flavor, that is produced in France and aged 2-3 months

abongo An acidic-maize, sugar, and palm-oil dumpling

abrey A nonalcoholic, sour drink made from white sorghum

abricot Brandy distilled from fermented apricot juice

abricotine A sweet apricot (*Prunus armeniaca*) liqueur. A French liquor made from brandy, fresh apricot pulp, and apricot kernel. A cordial made from brandy and apricot extract

Abruzzi A variety of rye

abscess Pus in any tissue or organ

abscissa (x axis) Horizontal axis on rectangular coordinates

abscission Detachment or separation of a fruit from a tree or shrub. Treatment with chemicals before harvesting aids this separation.

absinth(e) (*Artemisia absinthium*) 1) An herb (wormwood) grown for its aromatic oil, which is used as a condiment; an alcoholic liquor can be made from its leaves. See **wormwood**. 2) A strong (high alcohol content), dry liqueur or elixir flavored with wormwood, aniseed, licorice, or fennel. It also contains a habit-forming drug.

absinth(e) oil See **wormwood**

absolute alcohol Contains about 99.8% alcohol; can be made as follows:

1. Heat crystalline copper sulfate until it is a white powder
2. Add to commercial alcohol (96%) until it no longer turns blue
3. Filter into a clean, dry, tightly capped bottle

absolute temperature (A)

$$^{\circ}\text{K (kelvin)} = ^{\circ}\text{C} + 273.16$$

$$^{\circ}\text{R (Rankine)} = ^{\circ}\text{F} + 459.69$$

See Part 2: Temperature (Conversion Table)

absolute value ($|n|$) A number without a + or - sign

absolute zero -459.69°F; -273.16°C

absorption Penetration of a liquid into the fine structure of a solid, the liquid being retained within the solid. Cellulosic materials (absorbent cotton, paper) readily absorb liquids. Absorption of nutrients by the intestinal walls is an important factor in metabolism; transfer of substances or nutrients from the gastrointestinal tract (intestine) to the blood or lymph systems, e.g., from the alimentary tract by digestion or from tissue. Retention or holding of oil or fat by a food. The word also means the tendency of a material to accept energy in the form of certain wavelengths of light (absorption band). See also **spectrophotometric analysis**

aburage Fried bean curd See **tofu**

abutillon A vegetable plant; its flowers or leaves are eaten

abvolt

$$1 \text{ abvolt} = 1 \times 10^{-8} \text{ volt (V)}$$

See **volt**

ABY agar See Part 2: Microorganism, Media

ac See **alternating current**

Ac Symbol for the element actinium

a.c. Latin for before meals

acacia A shrub; its young flowers [blossoms of acacia (wattle)] are used in making fritters or for food flavoring.

acacia gum See **gum arabic**

acar (achar) 1) General term for pickle, sometimes hot. 2) Pickled fruit. 3) Pickled vegetables

accelerated freeze-drying Freeze-drying with expanded metal (or spikes) between the drying surface of the frozen food and the heating platens

accelerated rancidity test Any test to determine the relative shelf life of fats or food by increasing the development of rancidity. This is usually done by abnormally increasing the temperature, light, and/or oxygen level. See **active oxygen method**

accelerator A device used to produce electron beams that can be used in food irradiation

acceptable quality level (AQL) A level of lot quality expressed as a percentage defective that is acceptable

acceptance A draft on which the debtor indicates by the word "accepted" the debtor's intention to pay

acceptance number The maximum number of defects acceptable in a lot

acceptance sampling plan A procedure for accepting a lot based on inspection of a sample from the lot

acclimation Adjustment to new surroundings

accoub Mediterranean vegetable; edible thistle

Parts eaten	Used as	Similar to
Buds	Parboiled vegetable	Potatoes
Root	Salsify substitute	Salsify
Shoots	Asparagus substitute	Asparagus

accra Yeast-batter fritters containing fish, meat, vegetables, or fruit

Accum, Frederick A German food chemist who applied chemistry to food problems in the 1800s and wrote *Culinary Chemistry* and *A Treatise on Adulterations of Food*

aceda A thick porridge gruel made from sorghum or millet

aceitunas Olives

acelga See beet, silver

acerola cherry (West Indian cherry, Barbados cherry) A tropical berry (*Malpighia punicifolia*; *M. glabra*) high in vitamin C (1700 mg ascorbic acid/100 g pitted fruit); it resembles a cherry but is an entirely different fruit.

Composition	Pulp & skin (%)	Juice (%)
Water	92	94
Protein	0.4	0.4
Fat	0.3	0.3
Carbohydrate	7	5
pH		3–3.5

See Part 2: Fruit Storage I

acesulfame K Artificial sweetener used in Europe

acetabulum Hip joint cavity; socket or cavity that receives the head of another bone

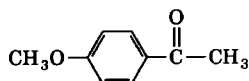
acetal [$\text{CH}_3\text{CH}(\text{OC}_2\text{H}_5)_2$] A volatile liquid used as flavoring

acetaldehyde (ethanal) (CH_3CHO) Found naturally in many foods and added to others as a flavoring agent; sp. gr. 0.804–0.811 at 0°/20°C, 99% pure
Storage: closed container in a cool (less than 15°C) place

acetaldehyde phenethyl propyl acetal pepital
Synthetic fruit flavoring

acetamide (CH_3CONH_2) Normal constituent of some foods and also a nitrogen excretory product of mice

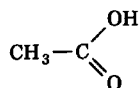
acetanisole (p-methoxyacetophenone)



Used as a flavoring agent in foods; mol. wt. 150.18
Storage: full, tight, glass containers in a cool, dark place

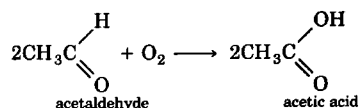
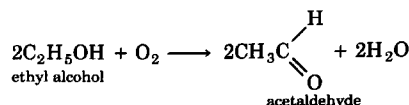
acetate differential agar See Part 2: Microorganism, Media

acetic acid (ethyl acetate)



A saturated carboxylic acid occurring as a free fatty acid in natural fat; found in vinegar (4–12%); formed by the bacterial fermentation (*Acetobacter aceti*) of

alcohol:



mol. wt. 60.03, equiv. wt. 60.03

Commercial grades	mol/l	g/l	% by wt.	Sp. gr.	N
Acetic acid	6.27	376	36	1.045	6.27
Acetic acid, glacial	17.4	1045	99.5	1.050	17.4

Can be obtained also by destructive distillation of wood and by reaction of carbon monoxide with methanol. Used in preserving and as acidifiers (pH control) and flavoring agents in food (particularly in dairy products)

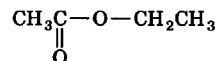
580 ml of 99.5% CH_3COOH to dilute to 10 l, approx. normality 1.00

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Normal Solutions; pH, Standard Solutions; Reagents, Normal Solutions

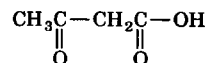
acetic bacteria *Acetobacter*

acetic ether (ethyl acetate)



Artificial fruit essence

acetoacetic acid



Product of incomplete oxidation of fatty acids See **acetone bodies**

Acetobacter A rod-shaped (2- μm long) microorganism that occurs in pairs of long or short chains; they are important in the carbon cycle, the production of vinegar, and the oxidation of ethanol to acetic acid and acetate or lactate to carbon dioxide and water.
See Part 2: Spoilage, Carbohydrate Foods

acetoin (acetyl methyl carbinol; dimethylketol) ($\text{CH}_3\text{CH}(\text{OH})\text{COCH}_3$) Used as a flavoring agent in food

Storage: full, tight, glass container in a cool place

See **acetyl methyl carbinol**

acetomel A syrup made from equal parts of honey and vinegar

Acetomonas A rod-shaped (3- μm long) obligate aerobic microorganism that oxidizes ethanol to acetic acid;

6 Acetomonas

they are found on fruits and in fermented beverages.
See Part 2: Spoilage, Carbohydrate Foods

acetone (2-propanone; dimethyl ketone)



Used as an extraction solvent in food; mol. wt. 58.08;
99.5% pure

Storage: tight container, away from fire

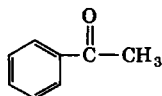
acetone bodies Compounds such as β -hydroxybutyric acid, acetoacetic acid, and acetone; these are *sometimes* end products of metabolism and are excreted as such; they are acidic and moderately toxic

acetonemia Metabolic cattle disease usually occurring early in lactation; loss of flesh and milk production, and an unsteady gait are symptoms; the presence of acetone bodies in the blood, prevented by a balanced ration

acetone peroxide Mainly 2,2-hydroperoxypropane on a cornstarch carrier; strong oxidizing agent; used as a bleaching and maturing agent and as a dough conditioner

Storage: in cool (below 24°C) and dry place

acetophenone (methyl phenyl ketone)



Used as a flavoring agent in food; mol. wt. 120.15

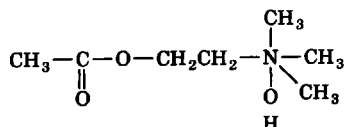
Storage: full, tight, glass container, away from light in a cool place

acetylation The addition of an acetyl group to a molecule

acetylated monoglycerides Waxlike solids that are partial or complete esters of glycerin with a mixture of acetic acid and edible fatty acids. Made by interesterification of edible fats with triacetin and glycerol; the $\text{CH}_3\text{CO}-$ group is attached to the glycerol. They are used as emulsifiers, coagulating agents, texture-modifying agents, solvents, and lubricants, in the chocolate covering of ice cream bars, and in jelly beans.

Storage: well-closed container

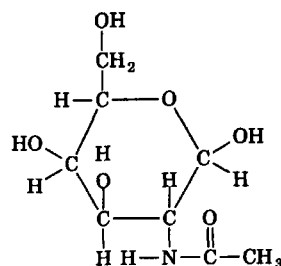
acetylcholine



Present in many parts of the body and important in transmitting nerve impulses

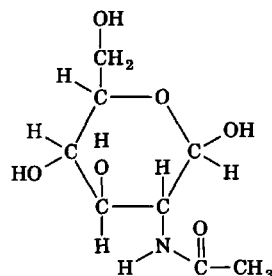
acetylene ($\text{HC}\equiv\text{CH}$) Can be prepared by treating calcium carbide with water; used in illuminating and welding See *alkyne*

acetyl galactosamine



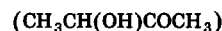
A monosaccharide derivative used as a building block in nature

acetyl glucosamine



A monosaccharide derivative used as a building block in nature

acetylmethylcarbinol (acetoin)



A product of dextrose fermentation partially responsible for the aroma of butter and for flavor in a number of foods

achar Cucumbers, shallots, and chilies marinated in vinegar, sugar, and salt; pickle, sometimes hot. See *acar*

achard Unsalted bamboo shoots pickled in vinegar

achar tandal Pickled cauliflower stalks

ache See *celery*

achene A small, dry, single-seeded fruit that remains closed at maturity, e.g., strawberry seed

achillee (*Achillea patarnica*) An herb used in salads

Achilles tendon A tendon that attaches the gastrocnemius muscle to the os calcis

See Part 2: Connective Tissue, Composition

achiote Seeds of the annatto tree used in coloring and flavoring meats and oils

achlorhydria Lack of gastric HCl in gastric juice, causing bacterial growth and putrefaction of gastric contents

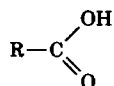
achojcha An edible fruit from a South American tree

Achromobacter (*Alcaligenes*) Small, bacterial rods; gram-negative, strictly aerobic, nonpathogenic, usually motile, microorganisms found in the intestinal tract; in dairy products, rotting eggs, and other

foods; in soil, and fresh and salt water; responsible for spoilage and producing rancidity of meat and fish
See Part 2: Spoilage, Protein Foods

achylic An absence of chyle in gastric juice; a deficiency of hydrochloric acid and rennin in gastric juice

acid A compound that may be either organic or inorganic and is characterized by the following properties: gives up (donates) protons (hydrogen ions, H^+) to other substances; has a hydrogen ion as its positive radical in solution; contains hydrogen atoms that are replaceable by positive components; reacts with a base to form a salt and water (neutralization); has a pH less than 7.0. Inorganic acids ionize strongly in water, e.g., sulfuric, hydrochloric. Organic acids ionize slightly or not at all in water; they may be saturated or unsaturated. They all contain one or more carboxyl groups ($-COOH$) and have the generalized formula



See also fatty acid Acids have a sour, sharp taste; many inorganic acids are severely corrosive to the skin and must be handled with care. In mixing, always add acid to water—*never* the reverse.

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Indicators, pH, and Acid Base; Organic Acids in Fruits and Vegetables

acid alcohol A mixture of 50 ml of 35% alcohol and 3 drops of pure hydrochloric acid

acid calcium phosphate *See calcium acid phosphate*

acid-cured fish (vinegar-cured fish) Fish or seafood preserved in an acidified brine or jelly

acid cut Faded areas in cheese, often around holes

acid detergent fiber (ADF) Fiber extracted with acidic detergent as a technique for evaluation of food and feed

acid drop Boiled sugar flavored with citric acid

acid equivalent (AE) For a herbicide, it is the amount of active herbicide per volume for a formulation of a herbicide with an acid base (e.g., 2,4-D) and is essentially the same as active ingredient

acid fast Laboratory staining technique [capable of retaining a stain (red) after washing with a dilute acid] to help identify the tuberculosis and paratuberculosis organisms. The organisms are resistant to drying and disinfectants due to a waxy capsule.

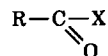
acid flux Flux used in soldering; it is a solution of zinc chloride, ammonium chloride, and hydrochloric acid or similar substances in water or alcohol.

acid food (high-acid food) Food with a pH of 4.6 or below; can be processed in a boiling water bath (steam not required); includes most fruit, fruit juice, most tomatoes, and pickled vegetables. It will not support growth of *Clostridium botulinum* and the food is usually only pasteurized.

acid-forming food Foods that leave an acid residue in the body after the food (e.g., meat, eggs, fish, and

cereal) has been utilized (oxidation). The pH of urine reflects the character of the food.

acid halides



Named after the acid by dropping the -ic and adding -yl, followed by the name of the halide

acidic A substance that tends to form an acid

acidified canned food Low-acid foods adjusted to a pH of 4.6 or lower and a water activity greater than 0.85 are usually only pasteurized, e.g., onions, peppers, and pickled foods

acidity The pH of a solution between 7.1 and 1.0

See Part 2: Bananas, Composition; Lemon Juice Composition; Lime Juice Composition; Milk, Physical Properties; pH, Buffer Solutions; pH, Standard Solutions; pH, Universal Indicators; pH Values of Biological Materials

acid-modified starch Acid modification lowers the paste viscosity of a starch solution

acid nitriles Organic compounds having the generalized formula $R-CN$

acid number *See acid value*

acidophilus milk A smooth, creamy-textured cultured milk, with a medium-strong acidic flavor of buttermilk (but less acid), that is normally low in fat; usually made from cow's milk and produced by adding acidophilus bacteria (*Lactobacillus acidophilus* or *Bifidobacterium bifidum*)

Procedure for production:

1. Heat to 37°C for 4 h to encourage spore germination
2. "Sterilize" at 95°C for 30 min
3. Cool to 37°C
4. Inoculate with 4% starter culture
5. Acidity of 0.6–1.3% lactic acid (milk sours at 0.3% lactic acid, casein coagulates at 0.6–0.7% lactic acid)

See Saint Ivel

See Part 2: Fluid and Fermented Milks, Composition

acidosis 1) Accumulation of acid or excessive loss of base from the body. 2) Accumulation of β -hydroxybutyric and acetoacetic acids

acid salt A salt in which only part of its available hydrogen (of the acid) has been replaced by a metal

acid sodium phosphate *See sodium phosphate*

acidulant An organic acid added to food to aid in preservation, to chelate metals (which also aids in retarding oxidation), and to modify taste (both acid and sweetness); it may be used with buffers to adjust pH, which in turn modifies physical properties.

See Part 2: Acidulants

acid value (acid number) Mg of caustic potash (potassium hydroxide) needed to neutralize the free fatty acid in 1 g of fat; a measure of processing care, storage deterioration, completeness of esterification, and amount of fat hydrolysis. The acid value is approximately twice the free fatty acid content (when expressed as oleic acid). *See also free fatty acid*

8 acini di pepe

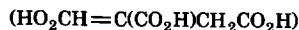
acini di pepe Pasta

ackee (*Blighia sapida*) Edible pod of a small West Indian tree, whose flesh may be cooked or canned; it is poisonous when not ripe.

AC medium An infusion-free, general culture medium for the propagation of anaerobes, microaerophiles, and aerobes; it is recommended for controlling sterility of products.

See Part 2: Microorganism, Media

aconitic acid (citridic acid)



Naturally occurring flavoring material found in beet root and cane sugar and also added as a flavoring to other foods

acoria Insatiable appetite after eating

acorn 1) Many species of oak produce an edible acorn that is sometimes roasted, ground, and used for a coffee substitute and can also be used for bread or mush. Sweet acorns (*Quercus esculus*) are used like chestnuts. The nuts can also be fed to hogs. 2) A thin-shelled, round winter squash variety (Danish, Des Moines, individual, green table), furrowed with deep ridges and shaped like an (oak tree) acorn. It is dark green splashed with orange and has yellow flesh; its exterior turns orange on storage.

1 med. to small acorn squash = 1 lb

See **squash, winter**

acorn coffee Oak-tree acorns roasted and used like coffee

acre (a.; A) A measure of surface area

- 1 acre = 6,272,640 square inches (in.²)
- = 100,000 square links
- = 43,560 square feet (ft²)
- = 4840 square yards (yd²)
- = 4046.87 square meters (m²)
- = 160 square rods (rd²)
- = 10 square chains (gunters)
- = 0.40469 hectare (ha) or square hectometers (hm²)
- = 0.004047 square kilometer (km²)
- = 0.001563 square mile statute

640 acres = 1 square mile (mi²)

See Part 2: Acre, Plants; Acre, Trees

acreage allotment An individual farm's share, based on previous production and on the nation's needs for acreage of a particular crop

acreage reduction program (ARP acreage limitation program) Requires a farmer to reduce the amount of crop planted below a base acreage level to qualify for price supports and target prices

acre-foot A measure of volume

- 1 acre-foot = 325,900 gallons (gal)
- = 43,560 cubic feet (ft³)

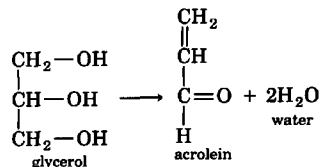
acre-inch A measure of volume

- 1 acre-inch = 3630 cubic feet (ft³)
- = 102.8 cubic meter (m³)

acremonium coenophialum (*Epichloe typhina*) An endophytic fungus that grows on fescue

acrid Sour, sharp, tart flavor or harsh, sharp, or pungent odor

acrolein



It is irritating to the mucous membrane and is the compound given off in smoke when fat is heated to the point of decomposition.

a croûte cendrée Ashes are applied to cheese to inhibit mold.

a croûte lavée Cheese is periodically washed to keep it from drying and to inhibit mold growth.

a croûte sechée A dried-rind cheese

ACS grade Designation of a grade of chemical purity that meets the specifications of the American Chemical Society

ACTH Adrenocorticotrophic hormone; secreted by the pituitary gland and stimulates the adrenal cortex

actin A protein located in the thin filaments of muscle See **actomyosin**

actinin A myofibrillar protein that is a portion of the thin filament in muscle tissue; it is divided into α -actinin, which promotes the lateral association of F-actin, and β -actinin, which inhibits the polymerization of F-actin.

See Part 2: Myofibrillar Proteins of Muscle

actinium (Ac) An element; at. no. 89; mass number of most stable isotope 227; electron configuration 2-8-18-32-18-9-2 orbit K L M N O P Q oxidation state +3; parent member of the actinide series of radioactive elements; Group IIIB of the Periodic Table

Actinomyces A microorganism in the soil, from which certain antibiotics are derived

See Part 2: Microorganism, Media

actinomycete isolation agar See Part 2: Microorganism, Media

actinomycetin Antibiotic agent effective against certain gram-positive and gram-negative organisms

Actinomycosis A disease (e.g., lumpy jaw) caused by *Actinomyces*

action level The safe residue limit Food Safety Inspection Service (FSIS) uses for unavoidable residues where a tolerance is not established

activated To cause a reaction to quicken, e.g., heat-accelerated

activated carbon See **carbon, activated**

activated 7-dehydrocholesterol See **vitamin D**

activated silica See **silica, activated**

activated sludge See **sludge, activated**

activator An ion whose presence promotes enzyme activity

active carbon See **carbon, activated**

active ingredient The portion of a chemical formulation that is active

Form	Often expressed as
Liquids	lb/gal
Wettable powders	%
Granules	%

active oxygen method (AOM) An accelerated rancidity test used as a method of measuring fat stability by bubbling oxygen (at a constant rate) through heated fat (usually 97.6°C) and following the peroxide formation (usually 100) or rancid odors may be used as an end point. Results are expressed in hours. See **accelerated rancidity test**

active oxygen stability Numerical expression of the number of hours a fat withstands the development of rancidity

active transport A material passing across a cell membrane (energy is expended), in and out of a cell, against a concentration gradient

activity See Part 2: Calorie Utilization

act of God Used to denote an occurrence beyond human control (e.g., accidents, earthquakes, floods, etc.). This usually will not terminate a transportation contract or discharge the parties unless so stipulated in the agreement.

actomyosin The globulin complex that is the major constituent of skeletal muscle, responsible for muscle contraction; consists of actin and myosin proteins
See Part 2: Myofibrillar Proteins of Muscle

acuity Fineness of discrimination; ability to detect small differences; often applied to vision

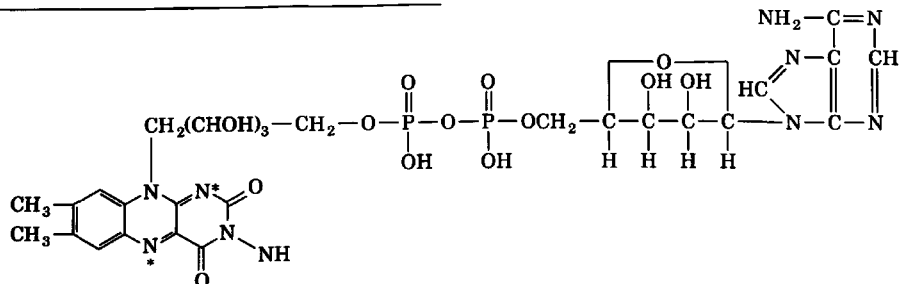
acute Disease occurs quickly and progresses rapidly

acute toxicity Immediate effects of consuming a specific amount of a substance; usually measured by the amount given in a single dose that will kill one-half of a test population of organisms. This is called the lethal dose for 50% (LD₅₀).

acyl group



An organic group formed by attachment of a carbonyl group (C=O) to an alkyl or aryl group



(*take on H here)

A.D. *Anno Domini* (in the year of our Lord)

ad- Prefix meaning to or near

adaptation Loss of sensitivity to a given stimulus due to fatigue

additive A substance permitted (by regulation) as a food ingredient; may be synthetic or derived from naturally occurring materials. Any substance, the intended use of which results or may reasonably be expected to result directly or indirectly in its becoming a component or otherwise affecting the characteristics of any food (FDA). Intentional additives in extremely low percentages perform specific functions in foods, e.g., antioxidants, anticaking agents, colorants, flavor agents, acidulants, etc. Unintentional additives are unwanted substances such as insecticide residues and other contaminants that may find their way into food products.

Often used to do the following:

Aid in processing

Maintain freshness

Maintain or improve nutritional value (fortification)

Make food more appealing

addled egg See **mixed rot**

adductor (muscle) Large inside thigh muscle that is cranial to the semimembranosus and caudal, and medial to the femur; a muscle that draws part of the body closer to the center of the body

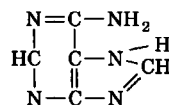
ade A beverage made from fruit (or fruit juice), sugar, and water

adchois A brown-crusted, French cheese made from goat's milk

adelost A 5-lb, sharp, salty, Swedish, Roquefort-type blue cheese made from cow's milk

aden- Prefix meaning gland

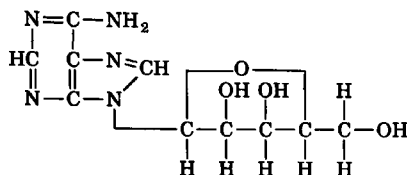
adenine A purine that occurs in ribonucleic acid and certain coenzymes



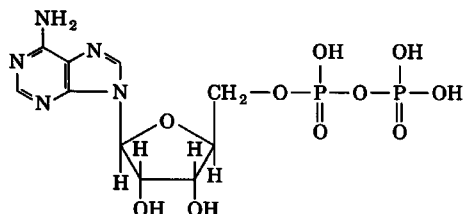
adenine-riboflavin dinucleotide A dinucleotide containing riboflavin phosphate and adenylic acid

10 adenosine

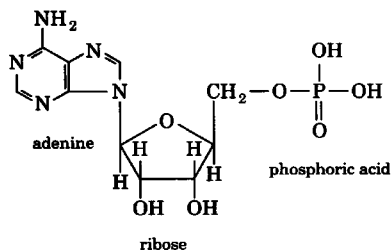
adenosine A nucleoside composed of adenine and ribose



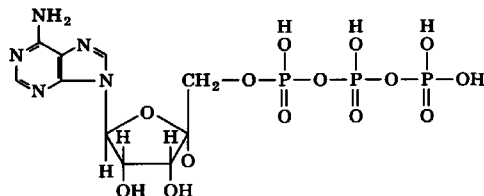
adenosine diphosphate (ADP)



adenosine monophosphate (AMP) See **adenylic acid**

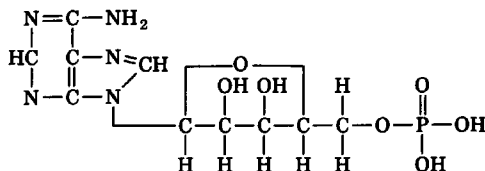


adenosine triphosphate (ATP)



A high-energy molecule that stores energy obtained from oxidation of glucose (38 ATP per oxidation of glucose molecule) and uses it to power body functions

adenylic acid (adenosine monophosphate, or AMP)



A mononucleotide of adenine

adermin See **pyridoxin**

ADF Acid detergent fiber See **acid detergent fiber**

ADG See **average daily gain**

adhesion Sticking or joining

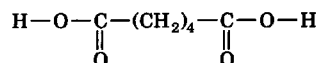
adhesive A sticky, tenacious, glutinous textural property perceived by the tongue and teeth

adia A rice and legume flour cake that is usually fermented (with lactic acid)

ad inf. *Ad infinitum* (to infinity)

adipic Relating to fat

adipic acid



An acidulant; naturally occurring in beets and added to foods for tartness, as a neutralizing agent, or as a buffer; sometimes used in baking powder. It is 110–115% as tart as anhydrous citric acid.

Storage: well-closed container

See Part 2: Acidulants

adipose Relation to fat

adipose tissue Tissue that contains fat

Average composition: moisture 11–17%; protein 3–7%; fat 75–85%; 3–8 calories/g.

See Part 2: Hide, Layers; Hides, Salt Absorption

adipsia Lack of thirst

adjustment tolerance tolerance, or limit, used to signal need for adjustment of a production unit. Products beyond this tolerance are not necessarily defective.

ad lib. *Ad libitum* (at one's pleasure); without restraint or limit

ad libitum (ad lib.) At one's pleasure; availability of food on a free-choice basis

adobo 1) Meat or fowl. 2) A pork, fish, or chicken stew. 3) Meat cut into cubes, with vinegar, salt, garlic, and pepper added, cooked in water, fried in lard, and stored in lard

ADP See **adenosine diphosphate**

adrenal cortex extract A drug extracted from the outer portion (cortex) of the adrenal glands of cattle, hogs, and sheep and used to treat Addison's disease and shock

adrenal glands (suprarenal) Two small reddish brown glands located near the kidneys; inner section of the gland is known as the medulla; outer portion is the cortex. This gland is stimulated by the adrenocorticotrophic hormone produced by the pituitary gland: I. Inner portion produces a secretion that makes the blood vessels smaller and speeds up the heart rate; II. Outer portion produces a secretion the lack of which causes Addison's disease.

adrenosterone ($C_{19}H_{24}O_3$) An androgenic steroid isolated from the adrenal cortex
See Part 2: Steroids

adsorption Adherence of molecules of a gas, liquid, or solid to the surface of a solid. It is important in deodorizing (activated carbon) and decolorizing (clays). It also plays a part in catalysis.

adulteration The addition of deleterious substances, debasement, mixing, or the incorporation of cheaper, inferior, or less-valuable substances without admission; if any substance has been added, mixed, or packed therewith to increase bulk or weight to reduce quality or strength, or to make the product appear to be better or of greater value

advance payment Payment made in advance, before data are available to compute the program benefits

adventitious roots Roots found in other than normal places

advice note A note sent to the buyer or consignee saying that the goods are ready for delivery

advocaat An egg-nog-type, thick (emulsified egg yolk), brandy liqueur with low alcohol content

adygeiskii A panir-type cheese made from cow's milk

adzuki bean (*Phaseolus angularis*; *Vigna angularis*) A subtropical, Japanese, red leguminous bean that is used as a protein supplement similar to the soybean, except that the oil content is low. It is used fresh, dried and made into flour or cooked into cakes, or mixed with sugar to make a bean jam.

-ae Latin suffix indicating plural

aegopodium (Bishop's-weed; goutweed; *Aegopodium podagraria*) Perennial herb, with parsleylike leaves, used in seasoning; variety often used is *Variegatum*.

aemono A salad with dressing or salad dressing

aer- Prefix meaning air

aerate Forcing air into water or waste

Purposes:

1. Carbon dioxide removal
2. To encourage aerobic bacterial growth
3. Ferrous iron removal
4. Flotation

aerated water (carbonated water; effervescent water) Beverage carbonated by addition of carbonic acid under pressure See **carbonated water**

aeration Incorporation of air into liquid (e.g., fat); movement of air through other material

aerial part The part of the plant that is aboveground

Aerobacter A gram-negative rod-type microorganism that will ferment glucose and lactose to produce acid and gas; found in dairy products, grain, sewage, water, and the alimentary tract.

See Part 2: Microorganism Reactions on Differential Tube Media

aerobe Microorganism that can grow in the presence of free oxygen

See Part 2: Microbiological Media

aerobic 1) Descriptive of bacteria that require air or oxygen to survive See also **facultative anaerobe**,

microaerophiles, **obligate aerobes** 2) Subjecting the body to sustained vigorous activity (e.g., running); builds endurance

Aeromonas A small rod-shaped (3- μ m long), facultative aerobic microorganism that is found in water and may be pathogenic to aquatic animals; breaks down carbohydrate to yield acid and gas

See Part 2: Spoilage, Protein Foods

Aeromonas hydrophila A pathogenic microorganism that can grow in refrigerated meat, poultry, fish, and vegetables

aerophagy Swallowing of air

aerosol 1) A suspension in air of a liquid or solid in finely divided form, as discharged through a small orifice by a propellant gas or other pressure source, e.g., spray-drying of milk. 2) A gas-tight container containing a propellant gas (a fluorocarbon, a hydrocarbon, or an inert gas) that forces a product from the container

aerosol container A container that is manufactured to withstand high internal pressure and containing a valve to dispense the product

AFD Accelerated freeze-drying

AFDOUS code Association of Food and Drug Officials of the United States; a frozen-food handling code

affiné Cured

affouk A sorghum beer

aflata An acidic maize, maize and plantain, or rice fermented product (dumpling) water-cooked before the second fermentation; sometimes mixed with raw fermented dumplings

aflatoxin A metabolic toxin produced by *Aspergillus flavus* and other fungi. It is carcinogenic.

African See **goose**

African chilies See **capsicum**

African cucumber See **bitter melon**

African rue (*Peganum harmala*) An African plant from which are isolated harmine and harmaline, both of which are stimulants to the central nervous system

See Part 2: Poisonous Plants

afrikoko Liqueur flavored with coconut and chocolate

aftertaste Taste that follows the removal of the initial stimulus; it may be continuous with or follow the initial stimulus after a period of time.

aftosa Foot-and-mouth disease

Ag Symbol for the element silver (Latin *argentum*)

agar-agar (agar; Chinese isinglass; Japanese agar; Japanese gelatin; Japanese isinglass; mousse de Japon; vegetable gelatin; *Eucheuma spinose*; *Gelidium cartilagineum*; *G. japonicum*; *Gracilaria confervoides*; *G. lichenoides*) A dried hydrophilic, polygalactoside gelling agent made from sea grass (*Gelidium cartilagineum*, *Gracilaria confervoides*, and other red algae); used as a bacterial medium and in foods (soups, jellies, ice cream) as a stabilizer, emulsifier, and, thickener, and

12 agar-agar

for clarification of wine. It is dried, white, semi-translucent, odorless, and tasteless. 1.5% concentration congeals at 32–40°C and liquefies at 85–95°C. Gel strength is proportional to concentration (0.5–2.0%); it is increased with sugar and locust bean gum content. Mol. wt. 5,000–30,000. It is indigestible by humans, acts as bulk, and has laxative properties. It is used as a substitute for gelatin. Some people are allergic to agar.

Available forms:

Blocks (square kanten)

Fine, hairlike

Powder

Slender sticks (slender kanten)

It will absorb 200 times its volume in water. For dessert use 2 tsp/pt of water

Storage: well-closed container

See **kanten**

See Part 2: Gum Characteristics; Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Gums, Physicochemical Properties; Stabilizers, Thickeners

agaric Any mushroom, particularly the species of the genus *Agaricus*; fungus

agave (century plant) American aloe or a fermented drink made from the sap of the aloe. In addition to making a drink, it is used for animal feed and to make a drug.

agbelimokple A soft, cassava dumpling

age The passage of time (or other units) from the beginning of an event

See Part 2: Bone Age; Teeth Eruption

aged Food (e.g., beef, cheese) and beverages (e.g., spirits, wine) stored under controlled conditions to improve flavor, color, and/or texture

aged cheese See **cured (cheese)**

aged meat Meat held 2–3 weeks or more (conditioning) at refrigerated temperatures (34–38°F) to improve flavor and tenderness; *Thamnidium* mold contributes to flavor of aged meat.

Quick aging: 2–3 days at 62–65°F, high humidity, and under ultraviolet lights.

ageing See **aging**

agglomerate Material packed in a dense cluster

agglutination Particles combining into clumps

aggregate fruit Fruit formed from a flower containing many pistils (e.g., blackberry)

See Part 2: Fruit Classification

agi Capsicum pepper; dwarf red pimiento

agidi A fermented (with lactic acid, pH 4–4.4), thick maize gruel that is cooked and wrapped in leaves

aging 1) Any increment of time that may (or may not) be accompanied by physiological change. Holding a food product (e.g., meat, wine) under specific conditions of temperature, humidity, etc. for an extended period of time to improve its texture, flavor, and other properties, or to determine its shelf life (change in properties with the passage of time, e.g., milled flour) See also **aged meat**

See Part 2: Cheese Characteristics; Tenderness of Poultry

2) In citrus fruit, a condition sometimes found after harvest and often called stem-end rind breakdown; the rind around the stem button wilts and shrivels, caused by loss of water from the fruit.

agitation Mixing or stirring action

aglau See **limburger cheese**

aglianico del vulture A dry, red, Southern Italian wine (usually aged) made from aglianico grapes

aglutition Loss of ability to swallow

agnolotti An envelope of pasta (ravioli) stuffed with meat, spinach, or other savory mixtures

agon A freshwater, sardinelike fish

agrafa A gruyèrelike, fresh Greek cheese made from ewe's-milk

agras A sweet beverage made from grape juice, sugar, and almonds

agribusiness Firms engaged in production and distribution of agricultural inputs or in the marketing, processing, or distribution of agricultural products

agricultural adjustment Programs designed to regulate agricultural production and marketing. The Agricultural Adjustment Act of 1933 created the Agricultural Adjustment Administration.

Agricultural Conservation Program (ACP) A program in which farmers agree to carry out specified conservation practices on their farms and receive payments to help defer part of the cost

Agricultural Development Council Training, research, and education in agricultural economics and rural sociology in less-developed countries (630 Fifth Ave., New York, NY 10020)

agricultural lime See **hydrated lime; lime**

agricultural limestone Liming material composed of 58% CaCO₃ and 42% MgCO₃; each pound has the neutralizing equivalent of 0.95–1.08 lb of CaCO₃ (or approx. this quantity of dolomitic limestone) See **lime**

agricultural policy Government programs that most directly affect the prices and incomes received by farmers

Agricultural Research Service (ARS) See **Science and Education Administration**

Agricultural Stabilization and Conservation Service (ASCS) Agency that administers the farm price and income support programs and some conservation and forestry cost-sharing programs

agrimony (cocklebur; stickwort; *Agrimonia eupatoria*) A member of the rose family whose aromatic, stringent leaves are used to make a tonic tea

agrini A soft, white, goat's-milk cheese that may be covered with mold

agro-dolce A sweet-sour sauce used on game or meat

agronomy The science of soil structure, fertility, and management and the application of its principles to agricultural crop production

aguacate See **avocado**

aguaji A grouper fish used for food See **grouper**

aguardiente A spirit, similar to brandy, distilled from wine or molasses

- aguay (tree strawberry)** A South American shrub that produces a berry used in preserves
- aguncate** A green, Peruvian gourd with avocado-like flesh
- agungate** A South American fruit often used as a vegetable
- ahei** A maize-based aliha beverage
- ahliho** A maize-based aliha beverage
- Ahr** A northern region of Germany noted for excellent red wines
- AID** Agency for International Development
- AIEE** American Institute of Electrical Engineers
- aigre-doux** Sour-sweet
- aigubelle** Green or yellow herb (50 types) liqueur
- aiguillette** Thin strip of cooked meat
- ain shams** A new muenster-type cheese from recombined milk
- aioli** A garlic-flavored mayonnaise
- air** The atmosphere enveloping the earth, composed chiefly of oxygen (21%), nitrogen (78%), argon (0.93%), and carbon dioxide (0.03%)
Specific heat = 0.238 cal/g·°C
Density of dry air at 0°C and 760 mm
= 0.001293 g/cm³
See Part 2: Ingestion and Inhalation; Insulation
- airag** See **kumiss**
- airan (ayran; eyran)** Sour, diluted, curdled milk
- air cell** An air-containing vacuole within an egg
See Part 2: Egg Structure
- air conditioning** Controlling the temperature and humidity of air
- air-dry** Drying a product by natural air movement, yielding approximately 90% dry matter
- air-slaked lime** Liming material composed of 80–95% Ca(OH)₂; each pound has the neutralizing equivalent of 0.85–1 lb of CaCO₃ (or approx. this quantity of dolomitic limestone)
- aish** Wheat bread
- aisy cendré** A French cheese made from cow's milk
- aitch bone (edge-bone)** Symphysis pubis; rump bone; hip bone See **ischium**
See Part 2: Beef Round, Bone Structure; Beef Wholesale Cuts; Bone; Bone Age; Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts
- aji** Capsicum peppers; chilies See **agi**
- ajinomoto (aji-no-moto)** Monosodium glutamate
- ajou** A sorghum beer
- akaafa** See **agidi**
- akakla** Baked chindanda made with maize and ripe plantain
- akala** A shrub that has large, purple or orange, round berries that are juicy and contain small seeds
- akamu** Sour sorghum or millet porridge
- akasa** Sour maize porridge
- akatsakoe** Sour maize porridge
- akebia (quinata)** A fruit native to the orient that is the size and shape of a banana
- akee** A medium-sized tree that bears a 3-in. red fruit; when ripe the fruit opens and a cream-colored aril is exposed; the aril is consumed raw, fried, or boiled.
- akene** Dry carpel having a single seed
- akevitt** See **akvavit**
- akit** Sour, diluted milk
- akkawi** A panir-type cheese made from cow's milk
- ak-mak** A sesame cracker that is usually made without sugar
- AK medium (Arret & Kirshbaum)** Microbiological medium designed for the production of spores of *Bacillus subtilis*, which, in turn, are used for the detection of antibiotics in milk
See Part 2: Microbiological Examination of Dairy Products
- akpatogui** Dried fish
- akpeteshie** A local gin distilled from palm wine
- akpiti** A fermented (with lactic acid, pH 4–4.4) fried dumpling made from maize or maize with plantain
- akple** A soft, sour-dough, fermented dumpling made from maize and cassava
- akporhe** Acidic, white, refined maize-meal dumpling
- akpu** A soft, cassava dumpling
- akraiheme** Sour, diluted milk
- akshi-ki-sidhu** Wine made from bark of the bahera tree (*Terminalia belerica*)
- aku** Fresh tuna
- akureyri** A blue cheese made from cow's milk
- akvavit** A schnapps-type spirit distilled from potato or cereal grain (often barley) and flavored with caraway seed
- akvaviittee** See **akvavit**
- akeyeke** Steamed cassava bread
- Al** Symbol for the element aluminum
- al** Ending for an aldehyde compound
- à l'** With; in
- à la** In the; often precedes how a food is prepared; with; in
- à la bigarade** Use of orange flavoring
- à la boulangire** With onions and potatoes
- à la brioche** Cooked on a skewer
- à la carte** The diner may select individual items and pays for each
- alachlor** See Part 2: Corn Herbicides
- à la coque** Boiled eggs
- à la duchesse** In sauce
- à la grecque** In the "Greek style;" vegetables seasoned with oil, vinegar, and spices and served chilled
- à la king** Meat or poultry prepared with milk, eggs, mushrooms, and seasoning and served in a cream sauce with mushrooms, peppers, pimentos, and/or sherry

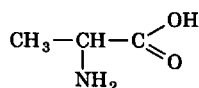
14 à la maison

à la maison Style of the house; specialty of the house

à la mode (in the fashion of) 1) Dessert (usually fruit pie) with ice cream. 2) Prepared in current French style of cooking. 3) In the style of. 4) Beef with vegetables. 5) Marinated beef. 6) Braised food. 7) Beef larded before braising

à la Newburg A seafood (especially lobster, shrimp, etc.) served with a thick sauce made from cream, eggs, and butter, usually flavored with wine. The name is said to be taken from that of the chef who invented it (Wenburg), in which the first and third letters were inverted.

alanine Monoamino-monocarboxylic nonessential amino acid; used as a nutrient and a dietary supplement



Storage: well-closed, light-resistant container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

à la provençal With olive oil, lemon juice, parsley, and garlic

Alaska pollack (walleye pollack; *Theragra chalcogramma*) A finfish found in the Pacific and available fresh, frozen, salted, dried, and spice-cured; it is a source of vitamin oil and roe. The flesh is light in color with a very light delicate flavor.

alb- Prefix meaning white

albacore *E. Germon alalunga*; *Seriola lalandi* (Atlantic); *Thunnus alalunga* (Pacific or longfin tuna); *T. germon* (chicken of the Pacific coast)] An alternate name for tuna; a saltwater fish of the tuna family, weighing 10–20 lb, whose flesh is firm and mildly flavored; best tuna for canning and the only species that can be labeled “white meat tuna”

albana A grape used in Italy to produce a popular light, fresh white wine

albedo 1) Whiteness; light reflected by a surface. 2) White material remaining on an orange after peeling
See Part 2: Orange Structure

albedo browning A discoloration of the white, spongy inner tissue of the rind of lemons. Externally, it appears as a slight, pebbly, brown-to-gray darkening of the rind. It usually occurs when immature fruit is stored at 32°F with poor ventilation.

alberga See pigeon pea

albert sauce A horse-radish-flavored sauce

albondigas Spiced meat balls

albumen Egg-white albumin

albumin (Pure protein; commercial egg white is spelled albumen.) A simple protein that is soluble in water and dilute salt solutions and is coagulable by heat. It is the protein portion and chief constituent of egg white; the albumin of egg white is sometimes

called albumen. Found in nearly all living cells:

	Found in
Albumin	Grain, soybeans
Lactalbumin	Milk
Ovalbumin	Eggs
Serum	Blood

See Part 2: Milk and Milk Products, Vitamin Content; Milk, Species; Wheat Products, Amino Acid Compositions

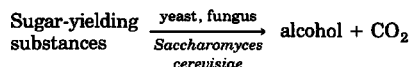
albuminoid (scleroprotein) A simple protein that is insoluble in water, dilute salt solutions, dilute acids or alkalies, and absolute or 70–80% alcohol (e.g., keratin, elastin, collagen, and fibroin)

Alcaligenes A Gram-negative, aerobic to facultatively anaerobic (8-μm long) rod-type microorganism found in dairy products, soil, water, and the intestinal tract; no gas is produced by carbohydrates; responsible for rosy milk

See Part 2: Intestinal Microorganisms in Triple-Sugar Agar; Microorganism Reactions on Differential Tube Media

alcohol A class of organic compounds in which one or more alkyl or aryl groups and one or more hydroxyl groups are present. The suffix -ol is approved by IUPAC, e.g., methanol, ethanol, etc. Both straight-chain and ring structures of various types occur. Aliphatic alcohols are subclassified as monohydric, dihydric, trihydric, and polyhydric (polyol), the names indicating the number of OH groups present. See also **absolute alcohol**; **acid alcohol**; **cholesterol**; **ethyl alcohol**; **glycerol**; **glycol**; **industrial alcohol**; **methyl alcohol**

Alcohol is usually derived from sugar by fermentation and has stimulating effects; if no other name is indicated, it is usually ethyl alcohol; commercial alcohol is usually 92.3% by weight or 94.9% by volume.



Alcohol content in the blood, given as the number of drinks (1½ oz, 86 proof liquor or 12 oz beer) in a 2-h period:

Body weight	Blood alcohol level		
	Below 0.05% (be careful driving)	0.05–0.09% (impaired driving)	Above 0.1% (do not drive)
100	1–2	3	4 and up
120	1–2	3	4 and up
140	1–2	3–4	5 and up
160	1–3	4	5 and up
180	1–3	4–5	6 and up
200	1–3	4–5	6 and up
220	1–3	4–6	7 and up
240	1–4	5–6	7 and up

alcoholic beverage A drink in which ethyl alcohol is present; the content varies widely with the nature of the drink. To remove stain from cloth, soak in cold

water, wash in warm suds, and rinse. If stain remains,

Washable—soak 15 min in 1 tbsp bleach + 1 qt water

Colored—soak 1.5 h in 2 tbsp hydrogen peroxide + 1 gal water

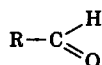
See Part 2: Alcoholic Solutions; Minerals (Trace), Limits

alcoholometer A hydrometer calibrated in percentage of alcohol

alcohol, perfume Alcohol denatured with diethyl phthalate

alcohol, vinegar Distilled vinegar

aldehyde A class of organic compounds characterized by the presence of the unsaturated carbonyl group ($C=O$). A hydrogen atom is also attached to the carbon atom, so that the generalized formula is represented by



The characteristic suffix is -al in IUPAC nomenclature, e.g., methanal (formaldehyde). Aldehydes may be aliphatic or aromatic.

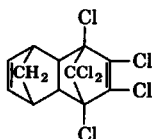
aldehyde See Part 2: Sugar, D-aldehyde

al dente A description of pasta that has reached the perfect state of cooking; pasta cooked till slightly chewy or firm (not soft); literally, "to the tooth"

aldosterone ($C_{21}H_{28}O_5$) A hormone; a mineralocorticoid that causes the retention of sodium and the loss of potassium; it is isolated from adrenals.

See Part 2: Steroids

aldrin A toxic insecticide that may be carcinogenic. Its use on food crops has been prohibited.



ale A light-brown, cereal-extract (usually from barley), alcoholic beverage made from barley malt and hops by a top-fermenting yeast; it used to differ (little difference today) from beer in that less hops were used and it was lighter in color and sweeter; English beer with 3.1–6.6% alcohol by volume; beer flavored with hops

aleatico A red table or dessert wine made from aleatico grapes

aleatico di puglia A red, sweet dessert wine

alebele A coconut-filled pancake

aleberry A warm, English drink made from beer, oatmeal, sugar, wine, lemon juice, and nutmeg

alecoet (costmary; *Chrysanthemum balsamita*) Chrysanthemum-balsam leaves used as an aromatic mintlike herb and used in salads

alectryon Acidic, red fruit from a New Zealand tree

ale flip (one yard of flannel) An English alcoholic beverage

alella A white, Spanish table wine

alementejo A soft, round cheese made in Portugal from cow's or goat's milk

ale posset An alcoholic drink made by curdling milk with ale and spices

alesandri An Italian-type salami See **salami**

alessandri A medium-to-coarsely chopped, uncooked, smoked or unsmoked, American sausage that is fermented and/or dry or semidry; available in links, rings, or large-diameter casings

alessandro An Italian-type salame

aleuronat Flour made from the aleurone portion of grain

aleurone layer The second layer or layer beneath the pericarp in grain; contains protein grain or granules

See Part 2: Corn Kernel; Rice Kernel; Wheat Kernel; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

alewife (elewife; gasperau; round pompano; sawbelly; *Alosa pseudoharengus*) A shadlike fish Europe (synonyms, Allis shad, shad, rock herring), *Clupea (Alosa) alosa* Linnaeus United States and Canada, *Pomolobus pseudoharengus* and *P. aestivalis*

Available forms:

Raw

Canned

Salted (and sometimes smoked)

Corned (lightly salted)

Tight pack (heavily salted)

Pickled (heavily salted): gross (entire fish); split or cut (head and guts removed); roes (head and guts removed, roe left in)

Vinegar-cured

Smoked

Roe (salted and colored; caviar substitute)

The flesh is 19% protein.

alexanders (black lovage; *Smyrimum olustratum*) A pungent herb whose leaves may be used in salads and whose fleshy stalk is sometimes used as celery

alfalfa (lucerne; *Medicago sativa*) A legume whose roots can be used as a vegetable, whose leaves can be ground into flour and mixed with other flour, whose sprouts can be used in salads and can be used as a winter salad, and whose seeds can be used for tea. Consumption by cattle can sometimes impart flavor to milk. It is also a perennial plant used for hay and pasture; cut when one-tenth of the flowers open; pH, 6.5–6.8; inoculation is essential. Varieties: Certified Atlantic, Certified Buffalo, Certified Williamsburg, DuPuits, Narragansett, and Oklahoma Common; Approx. nutrients used by 3 tons of hay—170 lb N, 48 lb P_2O_5 , 150 lb K_2O ; plant 10–12 lb/acre. 1 bu alfalfa seed = 50 lb

Composition (hay, dry): moisture 8%; protein 14.3%; nitrogen-free extract 43%; crude fiber 25%; fat 2.2%; ash 7.5%

See Part 2: Nutrients in Crops; pH Values of Biological Materials; Seed, Germination

16 alfalfa meal, dehydrated

alfalfa meal, dehydrated 0.6 lb/qt; 19 lb/bu

alfalfa sprouts (*Medicago sativa*) Delicate seedlings that are used raw or cooked in salads, sandwiches (they will not wilt or lose their crispness on sandwiches), or vegetable dishes. They are white (the lighter the color, the sweeter the taste) with tiny budding tops and have a sweet to grassy taste. They can be grown in 3–6 days.

alfisols Brown and reddish brown soils, found in areas of Mediterranean-type climate; the vegetation is commonly savanna woodland.

alfol Crumpled aluminum foil used as insulation

See Part 2: Insulation, Conductivity Values

alfonsino (*Beryx splendens*) A food fish

al fresco In the open air, usually in reference to dining

algae Chlorophyll-bearing, unicellular or multicellular (consisting of a plant body that is not divided into roots, stems and leaves) plants that are either motile or nonmotile, are often microscopic, and are primarily aquatic; subclassified as green, blue-green, red, and brown. They include many types of seaweed. The larger types, called kelp, do exhibit some differentiation of cell function in organs of attachment. Kelp is the chief source of carrageenan used as a texturing aid in ice cream, etc. Algae contain 50% protein on a dry basis. See also **agar-agar**; **algin**; **carrageenan** See Part 2: Microorganism, Media

algae bloom Visible concentration of algae growth caused by rapid growth

algae meal, dried A natural additive used to color (yellow) chicken feed

alga mar (*Durvillea antarctica*) An edible seaweed

algaroba See **bean, locust**

algarroba (St. John's bread) See **carob pod**

alga spot A subtropical fruit disease caused by the growth and expansion of algal (*Calphaleuros virescens* Kunze) tissues of the host tree. The fruit may be spotted, with a mosslike appearance.

algicide A chemical that is toxic to algae (e.g., copper sulfate) but that, in proper concentrations, will cause negligible toxicity to other forms of life

algin A hydrophilic gum extracted from sea-growing brown algae (*Macrocystis pyrifera*), composed of D-mannuronic and L-galacturonic acid residues; mol. wt. 35,000–200,000; used as a stabilizer for bread mix, sauces, and in some cheeses See also **alginic acid**; **alginate**

alginate A gelatinous derivative (e.g., ammonium alginate, calcium alginate, potassium alginate) of alginic acid, obtained from seaweeds, that is used as a clarifying agent, stabilizer, and water retainer See also **alginic acid**

See Part 2: Gum Characteristics; Gums and Gelling Agents; Minerals (Trace), Limits; Stabilizers, Thickeners

alginic acid [(C₆H₈O₆)_n] A hydrophilic carbohydrate extracted from seaweed (*Laminaria* spp.); equiv. wt. 200.0; used as an emulsifier, stabilizer, and thick-

ener. Types used in food industry are as follows:

Ammonium alginate [(C₆H₇O₆NH₄)_n], ammonium salt of alginic acid

Potassium alginate [(C₆H₇O₆K)_n], potassium salt of alginic acid

Propylene glycol alginate [(C₉H₁₄O₇)_n], propylene glycol ester of alginic acid

Sodium alginate [(C₆H₇O₆Na)_n], sodium salt of alginic acid

Storage: well-closed container

See also **algin**

See Part 2: Minerals (Trace), Limits

alicante A red, Spanish dessert wine

alicyclic A class of organic compounds in which the carbon atoms form closed rings of various geometrical shapes. They may be saturated or unsaturated and have properties resembling those of aliphatic compounds. They may be hydrocarbons (cyclohexane) or alcohols (cholesterol).

aligot (*tomme d'aligot*) A mozzarella cheese made from cow's milk

aliha A brown-colored, cereal-based, nonalcoholic beverage

alimentary Pertaining to food, nutrition, or absorption of food

alimentary paste Bland-flavored pasta, such as macaroni, spaghetti, vermicelli, noodles, and other products prepared from durum wheat flour See **wheat**

alimentary tract (**digestive tract**) Hollow food-passage duct leading from the mouth to the anus, including glands that secrete digestive juices

aliphatic A class of organic compounds in which the carbon atoms are arranged in a straight (open) or branched chain. They may be either saturated or unsaturated. They include hydrocarbons, organic acids, ketones, amines, aldehydes, and the more common alcohols, e.g., methanol, ethanol, butanol, etc. See also **alkane**, **alkene**, **alkadiene**, **alkyne**

aliquot Exactly measured volume; a definite part of a whole

alisander An herb with a celery-like flavor

alise Brandy distilled from fermented rowan berries (*Sorbus aucuparia*)

alizarine yellow A pH indicator (0.1% water solution) with a range of 10.11–12.0. It is yellow in acid and violet in the basic direction.

alkadiene (C_nH_{2n-2}) An unsaturated aliphatic hydrocarbon that contains two double bonds. Also called **diolefin**

alkalescens A species of *Shigella* microorganism; renders milk alkaline with changing appearance, taste, or odor; occasionally causes diarrhea

See Part 2: Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar

alkali (**alkaline**) Various bases (taste may be sour or bitter); hydroxides of alkali metals and ammonium (e.g., ammonium bicarbonate, calcium carbonate, sodium bicarbonate); has a hydroxyl ion as its negative radical in solution. A substance with mild to caustic properties; pH in excess of 7; turns litmus

- paper blue and neutralizes acids; saponifies fat. See also **base**; **caustic soda**
- alkali metal** The strongly electropositive metals occurring in Group IA of the Periodic Table. They have a valence of 1.
- alkaline-earth metal** The metals occurring in Group IIA of the Periodic Table, with the exception of beryllium. They are electropositive, and have a valence of 2.
- alkalinity** Usually considered to be the bicarbonate, carbonate, and hydroxide content (although other materials may also contribute)
- alkali refining** Treatment of liquid fat with alkali to remove free fatty acids as soapstock
- alkaloid** A product of plant metabolism, many of which are poisonous. They belong to the class of nitrogenous heterocyclic compounds. Well-known examples are nicotine, caffeine, morphine, and strychnine.
- alkane** (C_nH_{2n+2}) A class of saturated aliphatic hydrocarbons containing only single bonds. Also called paraffins
- alkanesulfonic** See **sulfonic acid**
- alkanet (oxtongue; *Anchusa officinalis*)** 1) A plant whose leaves can be used as a vegetable. 2) A vegetable color (brown-red) from the alkanet root
- alkanethiol** ($R-SH$) An alcohol-type organic compound in which the oxygen atom of the OH group is replaced by sulfur, forming a sulfhydryl group. Such compounds were formerly called mercaptans.
- alkene** (C_nH_{2n}) A class of unsaturated aliphatic hydrocarbon containing one double bond. Also called paraffins
- alkyl cyanide** See **nitrile**
- alkyl group** (C_nH_{2n+1}) An aliphatic saturated hydrocarbon group having one valence (CH_3 , C_2H_5 , etc.), often represented by R
- alkyl halide** ($C_nH_{2n+1}X$) Any alkane in which one hydrogen atom has been replaced by an atom of either fluorine, chlorine, bromine, or iodine (X)
- alkyl metallic sulfate** $R-O-SO_2-O^{-+}M$, where M stands for a metal
- alkyl sulfate** $R'-O-SO_2-O-R$
- alkyl sulfide** See **alkylthioalkane**
- alkylthioalkane** ($R'-S-R$) An ether-type organic compound in which the oxygen atom is replaced by sulfur
- alkyne** (C_nH_{2n-2}) A class of unsaturated aliphatic hydrocarbons containing one triple bond; also called acetylene compounds
- all-** Prefix meaning other, different, or abnormal
- all-American selection** Results of garden trials over a wide geographic area; gold, silver, and bronze awards are given to the seed producers.
- All Bran** A ready-to-eat cereal; 32.9% fiber, 19% sugar; 70 g/cup
- alleghehy metal** A corrosion-resistant alloy containing
Iron (17–20%)
Nickel (7–10%)
Chromium
Manganese
Phosphorus
Sulfur
Carbon
Silicon
Practically insoluble in food
- allemande** A smooth, yellow sauce made from the strained stock of veal, fish, or chicken and mixed with egg yolks, cream, lemon juice, and spices (e.g., nutmeg)
- allergen** A substance that produces allergy
- allergy** An unusual, abnormal, or exaggerated reaction (hypersensitivity) to an ordinary substance (sometimes ordinary food) to which most individuals of the same species are not sensitive
- alley cropping** Food crops grown in “alleys” formed by hedgerows of leguminous trees or shrubs
- allgauer** A Swiss cheese made from cow’s milk
- allgauer bergkäse** A German, hard cheese made from cow’s milk
- allgauer rahmkäse** A German, soft cheese made from cream; Limburger class
- allgood** See **good King Henry**; **mercury**
- allheal** See **valerian**
- alliaria (jack-by-the-hedge)** An herb with garlic-like flavor
- allies** Small stalked fungi
- alligator (*Alligator mississippiensis*)** Tail portion may be eaten
- alligator apple** See **custard apple**
- alligator pear** See **avocado**
- allo-** Prefix meaning other, different, or abnormal
- allose** ($C_6H_{12}O_6$) A synthetic aldohexose sugar
See Part 2: Sugar, D-Aldehyde
- allotment** An allotted share of production for an individual farm
- allotropy** Element in more than one form in the same state
- alloy** A substance with metallic properties, composed of two or more chemical elements of which at least one is a metal
- allspice (pimento, not pimienta) (Jamaican pepper; pimenta; pimenta berry; *Pimenta dioica*; *P. officinalis* Lindl)** 1) Dried, nearly ripe reddish brown berry ($\frac{1}{4}$ -in. diameter) of pimento tree (tropical, evergreen) used as a spice; berries are picked prior to ripening (green), sun-dried (reddish-brown), and used whole or ground (usually as a fine grind). Flavor: pleasant, slightly floral, with a slightly bitter and astringent taste, and has an aroma similar to a mixture of nutmeg, cinnamon, and cloves. For labeling purposes the word “allspice” indicates Jamaican origin only.

18 allspice

Composition: quercitannic acid 8% (min.), moisture 8% (max.); fat 8–9%; volatile oil 3.5% (v/w min.); protein 4–7%; carbohydrate 72–73%; fiber (25% max.) 21–22%; ash (6% max.) 4–5%; ash insoluble in HCl 0.4% (max.)

Used in baked goods, fruit preserves, gravies, pickling spice, puddings, and relishes

Sources:

Guatemala

Honduras

Jamaica (highest oil content)

Mexico

See Part 2: Essential Oils; Spices, Microbial Content

2) A shrub-type herb (*Calycanthes floridus*) whose wood has an allspice scent

allspice oil A yellow to reddish brown oil obtained by steam-distillation of the fruit of allspice

Optical rotation -4° to 0°

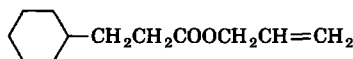
Refractive index 1.527–1.540 at 20°C

Sp. gr. 1.018–1.048 g/ml

allumette Potatoes or other vegetables that are cut like matches; puff-pastry hors d'oeuvre or entree covered with various garnishes; small puff-pastry cakes

alluvial Diverse, high-fertility, valley-floor soil

allyl cyclohexanepropionate (allyl-3-cyclohexanepropionate)



Used as a food-flavoring agent

Storage: tight, light-resistant container

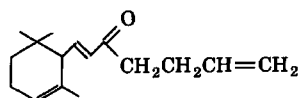
allyl hexanoate (allyl caproate)



Used as a food-flavoring agent

Storage: full, tight, glass container in a cool place away from light

allyl α -ionone (allyl ionone)



Used as a pineapple-like flavoring agent

Storage: full, tight, glass container away from light

allyl isothiocyanate (volatile mustard oil)



A flavoring compound found in mustard and obtained by distillation of the seed of *Brassica nigra* or *B. juncea* or made synthetically; used as a flavoring agent

Storage: full, tight container in a cool, dark place

almojabano A maize-meal muffin stuffed with white cheese

almond (bitter, *Prunus amygdalus*; sweet, *P. amygdalus dulcis*) A small, self-sterile tree grown for its nuts (the seed of a leathery fruit that ripens in August and September) and for oil production; a hard-shelled ellipsoidal nut

Other varieties:

Variety	Common name	Use
Amara	Bitter	Almond oil for flavoring and emollient
Dulcis	Sweet	Edible nuts
Mission		Short, plump nut used for chocolate candy and for a roasted or salted snack

Used in the following forms:

Blanched, roasted, and salted

Blanched, slivered (blanched, halved, cut lengthwise, shorter than matchstick size)

Broken blanched

Chopped, natural (natural almond, chopped)

Diced, roasted, and salted (finely diced and roasted, lightly salted)

Hulls (used for cattle feed)

Types	Varieties	Shell	Shape and/or use
Hard-shell	Peerless (California)	Thick; cracking	Hard, tightly covered shell; sold in shell
	Jordan (imported) Valencia (imported)		Oblong; long plump kernel Pointed at one end and flat on the other; plump kernel
Papershell	Nonpareil	Thin; cracked with fingers	Used whole, sliced, blanched, chopped, and slivered
	IXL Ne Plus Ultra		Long, thin; used for candy-coated Jordan almonds
Soft-shell	Drake	Thin; cracked with fingers	
Standard-shell	Texas	Thick; cracking	

Used in following forms (cont)

Roasted, blanched, and slivered (blanched, slivered, roasted to golden color)

Shells (used to make charcoal briquettes)

Sliced, blanched (thinly sliced lengthwise, skin removed)

Sliced, natural (thinly sliced lengthwise, brown skin not removed)

Split, blanched

Whole, blanched (shell and skin removed)

Whole, natural (shell removed, brown skin not removed)

45% refuse

1 lb, hard-shell, in shell = 1-1.25 cup whole meat (6.3 oz)

1 lb, papershell, in shell = 2 cups meat

1 lb almond nutmeats = 3-4 cups nutmeats

1 lb shelled nutmeats

= 3½ lb imported unshelled

1 lb shelled nutmeats = 2 lb, Calif. unshelled

1 cup, shelled and chopped = 4.5 oz

1 cup shelled nutmeats = 150 g (5.4 oz)

1 cup, blanched = 3 oz

1 lb, shelled = 3.25 cups, chopped

1 cup, in shell = 2.8 oz

1 almond, shelled = 1.2 g

Preparation

To split: warm and use knife

To blanch: cover with water, boil at high heat, and cool quickly

Roasting: Place in an oiled pan in a 350°F oven for 10 min or, in butter or oil, 300°F oven for 15-20 min

Toasting: Place in a 300°F oven for 15-20 min or 350°F for 10 min

Storage: below 35°F

Unshelled, unroasted—refrigerate for up to 1 yr

Shelled, unroasted—in tightly closed containers in refrigerator or freezer

Shelled, roasted—refrigerate for up to 3 months

Compo- sition	Moisture (%)	Protein (%)	Fat (%)	Carbo- hydrate (%)	Ash (%)
Dried	5	19	54	20	3
Roasted and salted	1	19	57	20	3.5

15 almonds (2 tbsp) = 105 calories

Salted, roasted = 311 mg Na/cup (157 g)

Unsalted, slivered = 4 mg Na/cup (115 g)

See Part 2: Beans, Peas, and Nuts; Flavor Ingredients, Taste and Flavor Type; Fruit and Nut Rootstock; Minerals, Food; Nut, Grades; Protein Factors; Tocopherols

almond black Black pigment produced by charring almond shells

almond essence Made from the kernel of bitter almonds, or plums, peaches, cherries, or similar fruit

almond extract A solution of oil and bitter almonds or oil extracted from bitter almonds in 1% alcohol; used for flavoring. Can be prepared (chemically iden-

tical) from the following:

Oil of apricot kernels

Oil of bitter almonds (more delicate and more expensive)

Oil of peach kernels

almond meal When partially defatted, it is 39% protein.

almond oil An oil obtained from bitter almonds or (steam-distilled) other kernels (peach or apricot pits), containing amygdalin; after removal of hydrocyanic acid (very poisonous) it is mixed with water and alcohol and is used as a flavoring agent. It may also be pressed from sweet almonds. Good-quality oil is yellow-white and odorless and has a slight nutlike flavor.

Acid number, 2.85

Iodine number, 93-100

Refractive index (15.5°C), 1.472-1.475

Saponification number, 188-195

Specific gravity, 0.914-0.920

Storage: full, tight, glass container in a cool place protected from the light

almond paste Made by cooking blanched and ground sweet and bitter almonds (56 parts) with sugar or dextrose (34 parts) and water (10 parts); remaining pulp after removal of oil from almonds. Used in candies and macaroons. Maximum of 14% water; max. 40% total sugar expressed as invert sugar

almond sauce A sauce made from almonds and bread crumbs and used on white meat

almond sirup See **almond syrup**

almond syrup An emulsion of the following:

Sweet ground almond kernels (10 parts)

Bitter ground almond (or apricot or peach) kernels (3 parts)

Barley syrup (or syrup of orange-flower water)

Sugar

al-mukdi Sweet, fermented, alcoholic beverage made from honey, often flavored with fruit juice and spices

aloha A liqueur flavored with coffee

alouette A soft United States or French cheese (spread)

alpenklubler A dry, uncooked, Swiss sausage made from medium- or coarse-chopped beef and pork, which is fermented and stuffed into an artificial casing

alpestre An herb liqueur

al pete A hard, peppery, Italian cheese

alpha (A, α) Greek letter, with the English equivalent of "A"

alpha amino acid See **amino acid**

alphabet Pasta shaped like letters

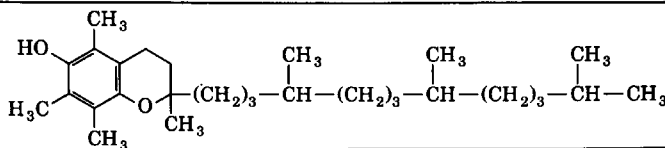
Alpha-Bits An oat cereal

1 cup = 1 oz

alpha particle (α) A positively charged particle emitted from the nucleus of an atom. It is composed of two protons and two neutrons, is identical to the nucleus of a helium atom, and has low penetrating power. A form of radiation given off by radium and other radioactive elements; atomic mass = 4.0028

20 alpha tocopherol

alpha tocopherol

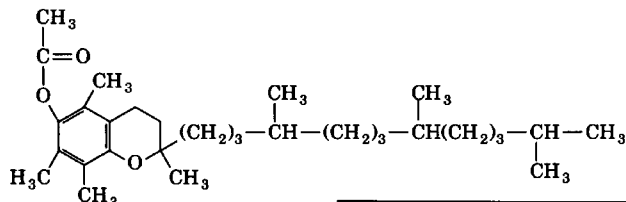


A chemical with vitamin E activity found in some foodstuffs. Use as a food additive, a food nutrient or dietary supplement, or an antioxidant for cereals or grain products to maintain or improve nutritional value

Sources: alfalfa; cottonseed oil; wheat-germ oil

Storage: tight container in the dark

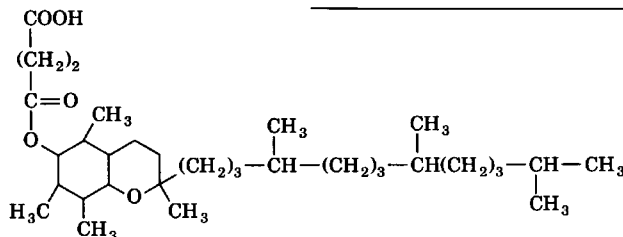
alpha tocopheryl acetate



Used as a nutrient or dietary supplement

Storage: tight container in the dark

alpha tocopheryl acid succinate



Used as a food nutrient or dietary supplement

Storage: tight container in a dark place

alphantoco sprout A sweet, crisp, salad sprout that can be deep fried, stir-fried, or steamed

alpina liqueur A yellow, sweet, Italian after-dinner cordial made of spirit and distilled with an essence of fruit

alpino An Italian-type salami See **apennino**; **salami**

alpkäse A Swiss cheese made from cow's milk

Alsatian

Grape	Wine
Gewurztraminer	Spiciest, white
Muscat	Scented, dry, white
Riesling	Crisp, dry, white
Sylvaner	Light, medium, white
Traminer	Spiciest, white

Alsatian wine A dry, white wine with a clean flavor produced in the Alsace area of eastern France

alsike clover (*Trifolium hybridum*) A perennial hay; seed 2-4 lb/acre (60 lb/bu); pH 6-6.8; inoculation is necessary; cut in full bloom

Alta A variety of fescue

altayskii A Swiss cheese made from cow's milk

alte kuhkäse A high-protein, hand-molded, semisoft cheese made from cow's milk

altenburg A small, flat, German cheese made from goat's milk

Alternaria A genus of *Fungi Imperfecti*; one of the plant diseases caused by this fungus is carrot blight,

which appears as irregular necrotic areas on older leaves.

See Part 2: Mold, Food; Molds, Mycotoxins; Rot Spoilage

alternaria rot (black rot) 1) Rot caused by a fungus (*Alternaria citri*) found on lemons that affects the central core or stem end. 2) A surface brown-to-black spotting or rot on fresh figs caused by *A. tenuis*. Decay (called mildew) is shallow on immature fruit but penetrates deeper with maturity. Low-temperature storage (below 45°F) offers the best control.

alternate AM-PM Weight and milk sample taken at a single milking per month; usually taken at morning milking for one month and at evening milking the next

alternate (biennial) bearing The tendency to bear a heavy fruit crop in one season and a light crop or no crop the following season

alternate routing A routing less desirable than normal but that results in identical terms

alternating current (AC) An electric current that reverses its direction of flow at constant intervals

altitude Distance above sea level. Cooking time alterations are as follows.

Boiling water bath:

Add 1 min/1000 ft if cooking time is less than 20 min

Add 2 min/1000 ft if cooking time is more than 20 min

Pressure cooker:

Add 1 lb/2000 ft; time remains the same

Cake recipe alterations per cake:

Altitude	Shortening	Sugar	Baking powder	Temp.
3000–5000 ft	1 tbsp less	1½ tbsp less	—	—
5000–7000 ft	2 tbsp less	3 tbsp less	Reduce ¼	—
Over 7000 ft	3 tbsp less	4 tbsp less	Reduce ½	Increase 25°F

Altitude (ft above sea level)	Boiling point of water	
	°F	°C
0 (sea level)	212	100
1,025	210.2	99
2,063	208.4	98
2,500	207.0	97.2
3,115	206.6	97
4,169	203.0	95
5,000	202.0	94.4
5,225	201.2	94
6,304	199.4	93
7,381	197.6	92
7,500	198.0	92.2
8,481	195.8	91
9,031	194.0	90
10,000	194	90

See Part 2: Altitude Adjustments for Baking; Altitude Corrections for Boiling Water; Temperatures Corresponding to Gauge Pressure at Various Altitudes

alt kuhkäse (hand cheese) A German cheese

altrose (C₆H₁₂O₆) An artificially obtained sugar; isomeric with glucose

See Part 2: Sugar, D-aldehyde

alum An inclusive term for several aluminum-type compounds; used in the preparation of pickles and maraschino cherries to give crispness and to harden gelatin; e.g., aluminum sulfate [Al₂(SO₄)₃ · 14H₂O], usually stated as containing 17.1% Al₂O₃ or 9.0% Al. Available as liquid, rice, granular, and technical. See also **aluminum potassium sulfate**; **aluminum sulfate**

alum-cochineal Potassic alum, 6 g; powdered cochineal, 6 g; distilled water, 90 ml; boil 30 min on steam bath; allow to settle and pour off the liquid; add water to bring up a 180 cc, boil down to 90 cc, cool, filter, add a small amount of thymol or salicylic acid

aluminum (aluminium; Al) A metallic element; at. no. 13; at. wt. 26.98; oxidation state +3; electron configuration 2–8–3 orbit K L M

Nontoxic; used in food machinery and cooking utensils. It is a good conductor of heat (spreads heat evenly), responds quickly to temperature change, resists corrosion, is soft, and is durable; it may react with acidic foods and wine, green leafy vegetables, and eggs and is dissolved by both acid and alkalis.

aluminum ammonium sulfate (ammonium alum) [AlNH₄(SO₄)₂ · 12H₂O] A buffer and neutralizing agent

Storage: tight container

aluminum foil Thin sheets of aluminum that can be used to wrap food

aluminum hydroxide [Al(OH)₃] A gastric antacid; mol. wt. 77.99, equiv. wt. 26.00

aluminum phosphate (ALP) A fumigant that can be mixed with cereal, legumes, and all foodstuffs to curtail infestation

aluminum potassium sulfate (potassium aluminum sulfate) [K₂SO₄ · Al₂(SO₄)₃ · 24H₂O] A double salt of aluminum used in water purification, as a food additive (buffering, neutralizing, and firming agent), and as an astringent

Storage: well-closed container

See **alum**

aluminum sodium sulfate (soda alum, sodium alum) [AlNa(SO₄)₂] Used as a food buffer, neutralizing agent, and firming agent

Storage: tight container

aluminum sulfate (cake alum, patent alum, solution is called alum liquor) [Al₂(SO₄)₃] A variety of alum used to clarify fats and oils, and in water purification; also used as a firming agent; has an astringent taste; mol. wt. 243.4, equiv. wt. 57.07

Storage: tight container

See Part 2: Reagents, Normal Solutions

alushta A red wine

alveolus Site of milk production in the mammary gland

A.M. 1) *Ante meridiem*, before noon. 2) A fruit juice drink

Am Symbol for the element americium

amaarwa A sorghum beer

amaas Yogurt

amabile A dry, sweet wine

amala (oka) Porridge or paste made from yam (*Dioscorea*) flour

amamori A sweet-potato-based arrack beverage

amandine Cooked with almonds

amanori See **nori**

amarante A white wine from Portugal

amaranth 1) FD & C Red No. 2—The red azo dye extensively used for many years as a food colorant, but prohibited in 1976 because of suspected carcinogenicity. It has been replaced for many applications by Red. No. 40. 2) Spinach of the east; a green leaf vegetable (*Amaranthus*) whose cooked leaves are used like mild spinach. 3) A family of plants cultivated for

22 amaranth

their flowers. 4) Love-lies-bleeding; pilewort; prince's feather; red cockscomb; an herb that can be used for tea. 5) A drought-resistant grain that is high in protein and lysine

amarelo cure (yellow cure) Portuguese salt cod in which some of the salt (final 18%) is removed between soaking and drying stages

amaretto A liqueur flavored with apricot kernels and almonds

amarit An alcoholic beer

amarogen Bitter-producing groups, e.g., —SH⁻

amarone A dry, rich, heavy, red Italian wine

amarula A liqueur made from fruit of marula or cider tree (*Sclerocarya caffra*)

amasi Yogurt

amazake A thick, creamy, rice wine

amazombe A southern African plant whose leaves may be eaten fresh or dried

ambali A fermented, sour millet and rice cake

ambarella (golden hog; jungli amba; otaheite apple; otaheite plum; spondias) Fruit from a Pacific tree whose yellow flesh is firm, juicy, and subacid; used green (in pickles and curries) or ripe (eaten raw and in preserves and jams)

ambaritsa Beef and pork pepperoni

am belbel A millet beer

amber fish (amberjack; California rockfish; yellow tail) A large (up to 100 lbs, avg. 8 lb) food fish

Small species:

Common amber

Coronado

Lemon fish

Madregala

Yellow tail

ambergris A gray to black waxy mass obtained from the sperm whale (*Physeter catodon*) and used to fix delicate odors

amberjack See **amber fish**

ambert A blue cheese made from cow's milk

ambient temperature The prevailing or surrounding temperature

amblygustia Defective taste

ambrette seed oil A volatile oil steam-distilled from the seed of *Abelmoschus moschatus*; sp. gr. 0.898–0.920, saponification value 140–200. A musky flavoring agent.

Storage: full, glass, tight container in cool place protected from light

ambrosia 1) Mixture of grapefruit and orange sections, pineapple pieces, and whole maraschino cherries, garnished with coconut. 2) A sweet drink, fruit salad, or pudding. 3) Anything gratifying in taste or odor. 4) Feather geranium; an oak-leaf-shaped leaf of a fragrant annual herb

ambrosia fruit See **ambrosia**

ambrosial Exquisitely pleasing in taste or smell

amebiasis Infected with amebae

See Part 2: Infectious Diseases, Food-Borne

ameliorate To improve See also **modified wine**

amensalism One species is suppressed by toxic products of another

American blue A blue cheese made from cow's milk

American cheddar A semihard, aged cheese

American cheese (American cheddar; cheddar; store cheese) A general term often used for United States cheeses; A mild, semisoft, processed cheese with a cheddarlike flavor; pH 4.9. These cheeses are sometimes colored yellow with annatto.

$3\frac{1}{2} \times 3\frac{3}{8} \times \frac{1}{8}$ -in. slice = 1 oz

1-in. cube = 0.6 oz

Grated

1 tbsp = $\frac{1}{5}$ oz

1 tsp = $\frac{1}{15}$ oz

1 cup = $3\frac{1}{16}$ oz

5 cups = 1 lb

Composition	American cheese	American cheese food	American cheese spread
Moisture (%)	39–40	43–44	47–48
Protein (%)	22–23	19–20	16–17
Fat (%)	31–32	24–25	21–22
Carbohydrate (%)	1–2	7–7.5	8.5–9.0
Fiber (%)	0	0	0
Ash (%)	5.6–6.0	5.2–5.4	5.8–6.0
1 oz (calories)	105	—	80
1-in. cube (calories)	60	55	—
1 tbsp (calories)	—	45	40

American cold-pack A cheese food

Composition: moisture 43–44%; protein 19–20%; fat 24–25%; carbohydrate 8–9%; fiber 0%; ash 4–5%

American Diabetics Association An organization concerned with the detection and control of diabetes

American Dietetics Association A professional organization for defining and maintaining standards for the dietitian

American eel (*Anguilla rostrata*) See **eel**

American ice cream Frozen custard that may contain starch, fruit, nuts, and/or chocolate

American leg of lamb A leg from which the tibia is removed and the meat that surrounded it is tucked under the fell

American mackerel See **mackerel**

American pasteurized process cheese A smooth, semisoft to soft, mild, cheddarlike flavored cheese, pale yellow to orange in color

American plaice (dab; *Hippoglossoides platessoides*) A food finfish with white meat and light to moderate flavor, a long rough dab See **plaice**

American plan (AP; full pension) Three meals a day included in room rate See **en pension**

American plum borer (*Euzophera semifuneralis*) A borer that will also attack pear trees

American Spice Trade Association (ASTA)

ASTA color—rating based on extractable color and used for paprika and red pepper

ASTA methods—laboratory methods for measuring various quality factors of spices

ASTA quality—quality level that meets Federal government and American trade requirements

See **paprika**

American system A system for grading wool based on Merino wool, which is fine. Grades: Fine, half blood, $\frac{3}{8}$ blood, $\frac{1}{4}$ blood, low $\frac{1}{4}$ blood, common, braid

americium (Am) A radioactive element of the actinide series; Group IIIB of the Periodic Table; at. no. 95; mass no. of most stable isotope 243; oxidation state +3, +4, +5, +6;

electron configuration 2-8-18-32-24-9-2

orbit K L M N O P Q

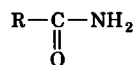
amer picon An orange-flavored red aperitif wine; a drink made by distilling alcohol over oil of oats; 38-40% alcohol; often sweetened

amese A soft, cassava dumpling

ametryne See Part 2: Corn Herbicides

amfrom (anfrom) A medium-soft, medium-flavored cheese made from cow's milk

amide A class of compounds derived from ammonia, some of which are inorganic (sodamide, NaNH_2) and some organic. Organic amides contain an acyl group



They are related to organic acids, in which the OH group is replaced by NH_2 . See also **acyl group**

amidze A red palm oil

AMIF-72 An antioxidant containing butylated hydroxyanisole

amine A class of organic compounds that may be derived from ammonia (NH_3) by substituting an alkyl or aryl group (CH_3 or C_6H_5) for one or more of the hydrogen atoms See also **amino acid**

amino The $-\text{NH}_2$ group

aminoacetic acid See **glycine**

amino acid A basic unit of protein containing at least one amino group (NH_2) and at least one carboxyl group or a derivative of this basic structure; they are of L-configuration, except glycine (which has no asymmetric carbon); 22 amino acids are constituents of proteins, and many others exist independently; 8 of the 22 are called essential, as they must be obtained from outside the human body, that is, in the diet.

Essential	Nonessential
Isoleucine	Alanine
Leucine	Arginine (essential during rapid growth)
Lysine	Aspartic acid
Methionine	Cystine
Phenylalanine	Glycine
Threonine	Glutamic acid
Tryptophan	Histidine (essential during rapid growth)
Valine	Serine
	Tyrosine
	Proline

See Part 2: Amino Acids; Amino Acid, Solubilities; Coconut, Amino Acids; Corn, Amino Acids; Egg Products, Nutritive Value; Manure Analysis; Milk, Amino

Acids; Protein and Amino Acids, Color Reactions; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions; Wheat Products Composition

amino acid fortification The addition of synthetic amino acids to food in order to improve its amino acid pattern See **fortification**

p-aminobenzoic acid (PABA) ($\text{NH}_2\text{C}_6\text{H}_4\text{COOH}$) A vitamin-like compound essential for growth of some organisms; also antagonizes sulfanilamide See **antagonism**

See Part 2: Wheat, Vitamins

α -aminocaproic acid See **norleucine**

aminodimethylaniline oxalate A reagent for certain bacteria

See Part 2: Microorganism, Media

α -aminoglutaric acid See **glutamic acid**

α -aminoisocaproic acid See **leucine**

α -aminoisovaleric acid See **valine**

α -aminopropionic acid See **alanine**

α -aminosuccinic acid See **aspartic acid**

amioca Modified starch made from a waxy strain of corn

amioca starch (amylopectin starch) Major constituent of cornstarch

amiral Butter sauce used on fish

ammeter An instrument that is connected in series with the circuit and measures electric current

ammonia, anhydrous (NH_3) A liquid fertilizer material that becomes gaseous at atmospheric pressure. Fertilizer notation 82-0-0. Acidic in nature; requires 1.47 lb of dolomitic limestone to neutralize each pound applied; bp -33.35°C , fp -77.7°C , heat of vaporization 327 cal/g, specific heat 1.07 cal/g-degree. An end product of animal metabolism. Made from natural gas or synthesis gas. Low electrical conductivity. Pungent, suffocating smell. Very soluble in water, giving an alkaline solution of ammonium hydroxide. Also used as a refrigerant

ammonia, aqua A solution of ammonia in water, forming ammonium hydroxide (NH_4OH). Solutions vary in strength from 10-29%. Pressure 40 psi at 25°F , 197 psi at 100°F See also **ammonium hydroxide**

See Part 2: Ammonia Solutions; Concentration of Commercial Strengths of Acids and Bases; Fertilizer; Fertilizer Materials; Normal Solutions; pH, Standard Solutions; Refrigerant; Sanitizers; Sanitizing, Chemicals; Wheat Products, Amino Acid Compositions

ammonia, quaternary A disinfectant that reduces the surface tension of microorganisms; unstable in the presence of organic matter; odorless, tasteless, and colorless

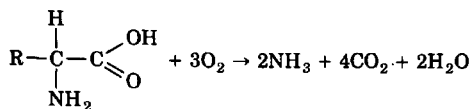
ammoniated Impregnated or combined with ammonia or an ammonium compound

ammoniated glycyrrhizin A flavoring ingredient that is 100 times as sweet as sucrose

ammonia water See **ammonia, aqua**

24 ammonification

ammonification The production of ammonia by bacteria from protein



ammonium NH_4^+

ammonium alginate (algin) $[(\text{C}_6\text{H}_7\text{O}_6\text{NH}_4)_n]$ A food additive; used as a stabilizer, thickener, emulsifier, or texture modifier

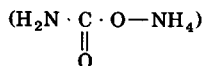
Storage: tight container

See **algin**; **alginate**; **alginic acid**

ammonium alum See **aluminum ammonium sulfate**

ammonium bicarbonate $(\text{NH}_4\text{HCO}_3)$ Alkaline substance used as a leavening agent, but an excess will liberate ammonia gas

ammonium carbamate



A white water-soluble powder that gives off ammonia on decomposition at 60°C ; use as a buffer, neutralizing agent, and fertilizer

Storage: tight, light-resistant container in cool (maximum 30°C) place

ammonium carbonate A mixture of ammonium carbamate and ammonium acid carbonate. Used to aid fermentation in wine manufacturing and as a general-purpose food additive

ammonium chloride (NH_4Cl) Water-soluble crystals; salty taste; used as yeast food, dough conditioner, and fertilizer

Storage: tight container

See Part 2: Normal Solutions

ammonium glutamate See **monoammonium glutamate**

ammonium hydroxide (NH_4OH) ; NH_3 in water; mol. wt. 35.05, eq. wt. 35.05

Com- mercial strength	mol/l	g/l	% by wt.	Sp. gr.	Normality
—	14.8	251	28	0.898	14.8

710 ml of 27% ammonium hydroxide to dilute to 10 l gives an approximate normality of 1.00; used as an alkali

Storage: tight container at temperatures less than 25°C

See also **ammonia (aqua)**

ammonium nitrate (NH_4NO_3) A fertilizer material; fertilizer notation 33.5-0-0; 33.5% nitrogen (50% of this is ammonia and 50% is nitrate); acid in nature and would require 0.58 lb of dolomitic limestone to neutralize each pound applied See also **ANL**; **calnitro**

See Part 2: Fertilizer; Fertilizer Materials

ammonium nitrate and lime See **ANL**

ammonium phosphate Used to improve bakery products, as a buffer, and as a leavening agent. Also used in animal feed and as a fertilizer material; fertilizer notation 11-48-0

	Dry matter	Protein equiv.	Phosphorus
Dibasic $(\text{NH}_4)_2\text{HPO}_4$	97%	112%	20%
Monobasic $(\text{NH}_4)\text{H}_2\text{PO}_4$	97%	69%	24%

ammonium phosphate, dibasic (diammonium phosphate) $(\text{NH}_4)_2\text{HPO}_4$ Used in food as a buffer, dough conditioner, leavening agent, and yeast food

Storage: tight container

ammonium saccharin (1,2-benzisothiazolin-3-one 1,1-dioxide ammonium salt) $(\text{C}_7\text{H}_8\text{N}_2\text{O}_3\text{S})$ Non-nutritive sweetener

Storage: tight container

ammonium sulfate Used in food (often yeast food) as a general-purpose additive, dough conditioner, buffer, leavening agent, and acidifier; also used as a fertilizer material; fertilizer notation 20.5-0-0; $[(\text{NH}_4)_2\text{SO}_4]$ acid in nature and would require 1.1 lb of dolomitic limestone to neutralize each pound applied

Storage: tight container

See Part 2: Fertilizer Materials; Normal Solutions

ammonium sulfide $(\text{NH}_4)_2\text{S}$ Artificial spice flavoring

ammonium thiocyanate See Part 2: Normal Solutions

amodeogboe Sour maize porridge

amokaklo A fermented food made from fried maize with onion and salt or maize with plantain, onion, and salt

amontillado A moderately dry, matured, nutty-flavored sherry with more body and color than fino, from which it is often made by aging in the cask

amoroso A sweet, dry, or cream sherry

amorphous Irregular arrangement of atoms in a substance. Lacking a crystalline structure, a characteristic of the liquid state of matter; some materials that are apparently solid, such as glass, are not crystalline and are considered to be liquids of extremely high viscosity; e.g., brittles, butterscotch, caramels, and taffy

amou An esbareich-type cheese that is matured 2-6 months

amourette A violet-colored, French, alcoholic drink used as an aperitif

amoy oolong A Chinese oolong tea

AMP See **adenosine monophosphate**

amp See **ampere**

ampalaya Balsam apple; an East Indian yellow, bitter gourd or melon used in pickles and curries

See Part 2: Vegetable Storage

ampere (A; amp) The rate of current flow (I or i)
 $1 \text{ A} = 6.24 \times 10^{18}$ electrons per second.

$$\text{ampere} = \frac{\text{volt}}{\text{ohm}}$$

ampere-hour

$1 \text{ ampere-hour} = 3600 \text{ coulombs (C)}$
 $= 0.03731 \text{ faraday}$

See **ampere**

ampere, international

$1 \text{ ampere, international}$
 $= 0.9998 \text{ ampere (absolute, U.S.)}$

ampere per square centimeter (A / cm²)

$1 \text{ A/cm}^2 = 10,000 \text{ amperes per square meter}$
 (A/m^2)
 $= 6.452 \text{ amperes per square inch}$
 (A/in.^2)

See **ampere**

ampere per square inch (A / in.²)

$1 \text{ A/in.}^2 = 1553 \text{ amperes per square meter (A/m}^2)$
 $= 0.155 \text{ ampere per square centimeter}$
 (A/cm^2)

See **ampere**

ampere per square meter (A / m²)

$1 \text{ A/m}^2 = 0.0006452 \text{ ampere per square inch}$
 (A/in.^2)
 $= 0.0001 \text{ ampere per square centimeter}$
 (A/cm^2)

See **ampere**

ampere-turn

$1 \text{ ampere-turn} = 1.257 \text{ gilberts}$

See **ampere**

ampere-turn per inch

$1 \text{ ampere-turn/in.} = 39.37 \text{ ampere-turns per meter}$
 $= 0.4950 \text{ gilberts per centimeter}$
 $= 0.3937 \text{ ampere-turns per centimeter}$

See **ampere**

ampere-turn per meter

$1 \text{ ampere-turn/m} = 0.0254 \text{ ampere-turn per inch}$
 $= 0.01257 \text{ gilberts per centimeter}$
 $= 0.01 \text{ ampere turn per centimeter}$

See **ampere**

amphetamine A potent, potentially habit-forming, appetite-suppressant drug. These prescription drugs have a number of known side effects.

amphoteric Elements that are in the center of the activity or electromotive force series and may either gain or lose electrons (act as a base or an acid) depending upon what elements they are associated with (e.g., sulfur) See **hydroxide, amphoteric**

amphoteric hydroxides Hydroxides that have the properties of both acids and bases

amplitude A combination of qualitative and quantitative evaluations of a product; overall judgment

amprolium Used in beef cattle to prevent and treat coccidiosis

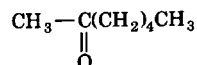
ampule A small, thin-walled, glass or plastic con-

tainer with a narrow neck that is heat-sealed after filling. It is opened by breaking the neck.

ampulla (of the ductus deferens) The enlargement of the vas deferens that expels sperm cells

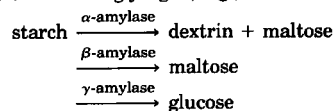
amygdalin A glycoside found in almonds, cherries, and peaches that contains cyanide and benzaldehyde (flavor) units

amyl acetate



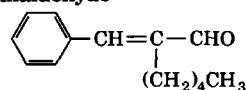
A flavoring compound found in bananas

amylase Several starch-splitting enzymes that hydrolyze α (1 \rightarrow 4) glucosidic linkages in polysaccharides such as starch and glycogen; e.g.,



amylase, β An enzyme that splits off maltose units from nonreducing end of starch molecules

α -amylcinnamaldehyde



A floral flavoring agent

Storage: full, tight, glass container, protected by an antioxidant and from the light in a cool place

amyl Dried tamarind See **tamarind**

amylglucosidase An enzyme See also **glucoamylase**

amylolytic Denotes enzymes that act on carbohydrates

amyopectin (amioca starch) A starch constructed in a bush-shaped arrangement; most of the α -D-glucopyranosyl sections are linked 1 \rightarrow 4, but branches are attached 1 \rightarrow 6 approximately every 26 monosaccharide units. It provides cohesive or gummy properties to cooked starch and is soluble and stable in water at concentrations of 5–10%. Because of the branching association between molecules, this compound does not often occur (except at low temperatures), which prevents gelling and produces a solution with high water-binding capacities. This makes rice moist and sticky on cooking. Glutenous rice starch is approximately 100% amylopectin.

See Part 2: Amylopectin; Amylose and Amylopectin; Starch

amylolysin (amylase) A pancreatic enzyme capable of hydrolysis of starch, glycogen, or their breakdown products

See Part 2: pH Values of Biological Materials

amylose A starch constructed of a linear chain of α -D-glucopyranosyl units joined by 1 \rightarrow 4 linkages. It is responsible for the gelling characteristics of cooked starch (association between molecules occur and this network traps water and produces gels); soluble in hot water but tends to precipitate on cooling and forms a rigid, irreversible gel that is responsible for the skin on cooked starch products.

See Part 2: Amylose; Amylose and Amylopectin; Starch

amyris oil Steam-distilled oil from the wood of West Indian sandalwood (*Amyris balsamifera*); sp. gr. 0.943–0.976; used as a food flavoring agent
Storage: full, tight, glass container in a cool place protected from light

an- Prefix meaning not or without

ana- Prefix meaning upward, backward, or excessive

anabolism Growth or building process; the digestion or reduction of food, synthesis of complex products, and storage of energy that takes place in a living organism

anadame bread Corn bread containing molasses

anadas Collection of wine of any one year

anaerobic 1) Descriptive of bacteria that can live without air or oxygen. *See also facultative anaerobe; obligate anaerobe*

See Part 2: Microbiological Media

2) Descriptive of an activity that demands maximum energy output for a brief period of time, e.g., 100-yd dash; builds stamina

anaerogenic Forming little or no gas

See Part 2: Intestinal Microorganisms in Triple-Sugar Agar

anaheim (California chile; chili verde) A light- to bright-green, mild to mildly hot chili pepper, 6 in. long, 1–1.5 in. thick. Available fresh or canned; fresh pepper should be charred and peeled

anaheim green chile (California green chile) A 6- to 8-in. long, mild-flavored, green chile with rounded tip. Can substitute canned green chile

analog (analogue) A similar substance or material; something that is similar to something else

analysis Resolution into component parts

analysis of variance (For measurement data of two or more trials) A mathematical analysis to determine if differences between averages are significant. If *F* is significant then see **means test** to see which means are significant.

analysis of variance (subtreatments)

analysis of variance (two-way classification)

Groups	<i>a</i> treatments					Σ groups	
	1	2	...	<i>i</i>	...	<i>a</i>	ΣX
1	X_{11}	X_{21}		X_{i1}		X_{a1}	$X_{.1}$
2	X_{12}	X_{22}		X_{i2}		X_{a2}	$X_{.2}$
⋮							
<i>j</i>	X_{1j}	X_{2j}		X_{ij}		X_{aj}	$X_{.j}$
⋮							
<i>n</i>	X_{1n}	X_{2n}		X_{in}		X_{an}	$X_{.n}$
Total							
ΣX	$X_{1.}$	$X_{2.}$		$X_{i.}$		$X_{a.}$	$X_{..}$

$$\text{Correction term} = \frac{(X_{..})^2}{an} = C$$

$$\text{Total SS} = (X_{11})^2 + \dots + (X_{an})^2 - C$$

$$\text{Group SS} = \frac{(X_{.1})^2 + \dots + (X_{.n})^2}{a} - C$$

$$\text{Treatment SS} = \frac{(X_{1.})^2 + \dots + (X_{a.})^2}{n} - C$$

$$\text{Error SS} = \text{Total SS} - \text{group SS} - \text{treatment SS}$$

n indiv. observations per treatment	a treatments					
	1	2	...	i	...	a
1	X_{11}	X_{21}		X_{i1}		X_{a1}
2	X_{12}	X_{22}		X_{i2}		X_{a2}
...						
j	X_{1j}	X_{2j}		X_{ij}		X_{aj}
...						
n	X_{1n}	X_{2n}		X_{in}		X_{an}
Treat. ΣX	$X_{1.}$	$X_{2.}$		$X_{i.}$		$X_{a.}$
Treat. mean $\Sigma X/n = \bar{x}$	$\bar{x}_{1.}$	$\bar{x}_{2.}$		$\bar{x}_{i.}$		$\bar{x}_{a.}$
ΣX^2	$\Sigma X_{1.}^2$	$\Sigma X_{2.}^2$		$\Sigma X_{i.}^2$		$\Sigma X_{a.}^2$
$C = (\Sigma X)^2/n$	$C_{1.}$	$C_{2.}$		$C_{i.}$		$C_{a.}$
$\Sigma x^2 = \Sigma X^2 - C$	$\Sigma x_{1.}^2$	$\Sigma x_{2.}^2$		$\Sigma x_{i.}^2$		$\Sigma x_{a.}^2$
						Total
						Total sum $X_{..}$
						Total mean $\bar{x}_{..}$
						Total sum of squares $\Sigma X_{..}^2$
						$C_{..} = (\Sigma X_{..})^2/\text{total } n$
						$\Sigma x_{..}^2 = \Sigma X_{..}^2 - C_{..}$

Source of variation	df	Sum of squares (SS)	Mean squares (MS)
Total	$(an) - 1$	$\text{Total } \Sigma X_{..}^2 - \frac{(\text{total } \Sigma X_{..})^2}{an}$	
Treatment mean (<i>a</i>)	$a - 1$	$\frac{\Sigma (\text{Treat. } \Sigma X_{.i})^2}{n} - \frac{(\text{total } \Sigma X_{..})^2}{an}$	$\frac{SS}{df} = \sigma^2 + nK^2$
Indiv. or error (<i>n</i>)	Sub. or $(n - 1)a$	Subtract or $\Sigma \text{treat. } \Sigma x_{.i}^2$	$\frac{SS}{df} = \sigma^2$

$$H_0: u_1 = u_2 = u_i = \dots = u_a \quad F = \frac{MS \text{ of treatment}}{MS \text{ of individual}} \quad \begin{array}{ll} df & f1 = a - 1 \\ df & f2 = a(n - 1) \end{array}$$

Subtreatment (b) $j = 1, \dots, b$		Treatment (a) $i = 1, \dots, a$								
		1			...			a		
		1	j	b	1	j	b	1	j	b
n obs. per subtreat.	1	X_{111}	X_{1j1}	X_{1b1}	X_{i11}	X_{ij1}	X_{ib1}	X_{a11}	X_{aj1}	X_{ab1}
$k = 1, \dots, n$	\vdots									
	k	X_{11k}	X_{1jk}	X_{1bk}	X_{i1k}	X_{ijk}	X_{ibk}	X_{a1k}	X_{ajk}	X_{abk}
	\vdots									
	n	X_{11n}	X_{1jn}	X_{1bn}	X_{i1n}	X_{ijn}	X_{ibn}	X_{a1n}	X_{ajn}	X_{abn}
Σ		$X_{11\cdot}$	$X_{1j\cdot}$	$X_{1b\cdot}$	$X_{i1\cdot}$	$X_{ij\cdot}$	$X_{ib\cdot}$	$X_{a1\cdot}$	$X_{aj\cdot}$	$X_{ab\cdot}$
Σ			$X_{1\cdot\cdot}$			$X_{i\cdot\cdot}$			$X_{a\cdot\cdot}$	
Σ						$X_{\cdot\cdot\cdot}$				
										df

$$1) C = (X_{\cdot\cdot\cdot})^2 / abn$$

$$2) \text{ Total SS} = \Sigma X_{ijk}^2 - C = (X_{111})^2 + \dots + (X_{abn})^2 - C \quad abn - 1$$

$$3) \text{ Total SS for subtreat.} = \Sigma X_{ij\cdot}^2 / n = (X_{11\cdot})^2 + \dots + (X_{ab\cdot})^2 / n \quad ab - 1$$

$$4) \text{ SS for error or individual} = \text{total SS(2)} - \text{total SS subtreat.(3)} \quad (abn - 1) - (ab - 1)$$

$$5) \text{ Total SS for treat.}$$

$$= (\Sigma X_{i\cdot\cdot})^2 / bn - C$$

$$= (X_{1\cdot\cdot})^2 + \dots + (X_{a\cdot\cdot})^2 / bn - C \quad a - 1$$

$$6) \text{ SS subtreat. of same treat.} = \text{total subtreat.(3)} - \text{SS treat.(5)} \quad (b - 1)a$$

Sources of variation	df	SS	MS
Total	$abn - 1$	(2)	
Total for treatment	$a - 1$	(5)	SS/df
SS subtreat. of same treat.	$(b - 1)a$	(6)	SS/df
Individuals	$(abn - 1) - (ab - 1)$	(4)	SS/df

$$F \text{ for treatment} = \frac{MS(5)}{MS(6)} \quad df - (5)$$

$$F \text{ for subtreat.} = \frac{MS(6)}{MS(4)} \quad df - (6)$$

Sources of variation	df	SS	MS
Group	$n - 1$	Group SS	$SS/n - 1$
Treatment	$a - 1$	Treat. SS	$SS/a - 1$
Error	$(n - 1)$	Error SS	$SS/(n - 1)$
	$\times (a - 1)$		$\times (a - 1)$
Total	$an - 1$	Total SS	

$$\text{Group } F = \frac{MS \text{ of group}}{MS \text{ of error}} \quad df - \text{group}$$

$$\text{Treat. } F = \frac{MS \text{ of treat}}{MS \text{ of error}} \quad df - \text{treat}$$

anaphase A phase of meiosis; anaphase I—homologous pairs of chromosomes separate and travel to respective centriole

anaphylaxis An unusual reaction of an organism to a foreign substance

anari A ricotta-type cheese made from sheep's or goat's milk and eaten fresh with fruit, honey, or sugar

anasarca (dropsy) Generalized edema

anastomosis Uniting of vessels by connecting branches

anatomy The branch of science that deals with structure of plants and animals

ancho A chile pepper. When fresh it looks like a bell pepper. When dried it has a flat, rounded shape (3- to 4-in. diam.) and is wrinkled, brick red to black and mild to faintly hot.

ancho chile Dried form of poblano chile; substitute $\frac{1}{2}$ tsp chile powder for each ancho chile

anchosen Sprat and herring preserved with salt and sugar or starched sugar

anchovis Sprats or small herring prepared similarly to anchovy

anchovy A pungent, salted and pickled herringlike fish (*Engraulidae*) usually packed in oil and canned (as flat fillets or rolled and stuffed with capers or pimientos), made into a table sauce, or potted to form a paste. They are also available fresh, frozen, salted, smoked, dried, and as meal or oil. Also used for fish meal and bait. They are usually 4-5 in. long and black-bluish brown with silver sides.

Name and location:

Anchoveta (South America), *Engraulis ringens*

Anchovy (Australia), *E. australis*

Anchovy (Azov Sea), *E. encrasicolus maeoticus*

Anchovy [Black Sea, synonym chamsa (Russian)], *E. encrasicolus ponticus*

28 anchovy

Anchovy (European), *E. pseudoharengus*, (synonym, *E. encrasicolus* Linnaeus)

Anchovy (Indian), *Anchoviella indica* [synonym, *E. (Stolephorus) indicus*]

Anchovy (Japanese), *E. japonicus*

Anchovy (Malayan), *Stolephorus* spp.

Anchovy, Northern (East Pacific), *E. mordax*

Atlantic and Pacific, *Anchoa* spp.

Bay, *A. mitchilli*

North Atlantic, *E. encrasicolus bleeker*

Northern (Pacific), *E. mordax*

Striped, *A. hepsetus*

Composition (pickled): moisture 59%; protein 19%; fat 10%; carbohydrate 0.3%; ash 11.5%

anchovy butter Anchovy paste mixed with butter (10–33%); a mixture of finely ground anchovies (1 part) with sweet butter (2 parts)

anchovy cream Anchovy paste mixed with vegetable oil (min. 10%)

anchovy dressing A dressing made with anchovy, oil, pepper, vegetables or greens, and vinegar

anchovy paste Finely ground (pounded), boned, and skinned anchovies (may be smoked) mixed with salt (maximum 20%), saltpeter, and spices and cured for 6 months

anchovy pear (river pear) A 2- to 3-in. russet-colored fruit, eaten as a pickle, from the *Grias cauliflora* tree

ancho A rice beer

ancien imperial (carré affine; petite carré) A small (2 × 2 × 1 in.) French cheese

ancona A mediterranean class of chickens that lays a white-shelled egg; greenish black with some white tip feathers; varieties, single-comb and rose-comb

andouille A large French sausage (or pudding) made from pork and/or pork by-products; a kind of sausage made of tripe

andouille de couenne A semidry, cooked, unsmoked, medium-seasoned, French, pork sausage, made from (coarsely chopped) $\frac{1}{3}$ pork casings and $\frac{2}{3}$ rinds and stuffed into beef casings

andouille de guémène A semidry, cooked, smoked, coarsely chopped, medium-seasoned, French sausage made only from pork casings and not stuffed into a casing

andouille de pays A semidry, cooked, smoked or unsmoked, medium-seasoned, French sausage made from pork coarsely chopped, head meat and hearts and stuffed into beef casings (or a casing may not be used)

andouille de viande A semidry, cooked, unsmoked, medium-seasoned, French sausage made from pork coarsely chopped, shoulder meat, back fat, and casings and stuffed into a beef casing (or a casing may not be used)

andouille de Vire A semidry, cooked, smoked, medium-seasoned, French sausage made from coarsely chopped pork casings and stomachs and not stuffed into a casing

andouille rouge A semidry, cooked, unsmoked, medium-seasoned, French, pork sausage made from

coarsely chopped, beef casings, pork stomachs, pork meat, and pork hearts and stuffed into a pork casing

andouillette de Cambrai A moist, cooked, unsmoked, medium-seasoned, French sausage made from coarsely chopped, veal tripe and stuffed into pork or beef casings

andouillette de Troyes A moist, cooked, unsmoked, medium-seasoned, French sausage made from coarsely chopped, pork casings and stomachs and stuffed into pork and beef casings

andouillettes A moist, cooked, unsmoked, medium-seasoned, French, pork and veal sausage, made from coarsely chopped, veal tripe and pork stomach and stuffed into beef or pork casings

andouillettes provençales A moist, cooked, unsmoked, medium-seasoned, French sausage, made from coarsely chopped, pork casings and stomachs and pork meat and stuffed into beef or pork casings

andouillettes rouennaises A moist, cooked, unsmoked, medium-seasoned, French, pork and veal sausage, made from (coarsely chopped) 50% veal tripe and 50% pork casings and stuffed into beef or pork casings

androgen Male secondary sex hormone

androgenic agents Used to improve growth performance and carcass characteristics

androstenedione A steroid hormone

See Part 2: Steroids

-ane IUPAC ending for alkane (paraffin) series of hydrocarbons

anebabaru Two injera (soft bread baked from teff) baked together and eaten with spiced butter

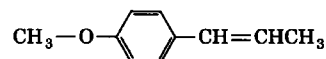
anejo A low-fat, hard, salty, crumbly cheese made from cow's or goat's milk

anemia (anaemia) A condition in which there is a deficiency of blood or parts of blood (e.g., low hemoglobin or a reduction in the number of red blood cells). Dietary factors that are often helpful are iron, B-complex vitamins, protein, copper, vitamin B₁₂ and specific foods

anemic Affected by a deficiency of hemoglobin and often by a reduction in the number of red blood cells

anesthesia (anaesthesia) Insensibility to pain

anethole (p-propenylanisole)



An aniselike flavoring agent obtained from anise oil, from other sources, or made synthetically

Storage: full, tight container in a cool, dark place

aneurin See **thiamin**

anfrom See **amfrom**

angba A clear, mildly alcoholic beer made from sorghum, millet, or maize

angel cake A dessert baked from egg whites, sugar, flour, cream of tartar, and flavoring

2.5-in. sector of 9.75-in. round cake

= 135 calories

See Part 2: Baked Products, Frozen Storage Life

angelfish A foodfish

Angelfish (Europe) See **monkfish**

Angelfish (U.S.), *Pomocanthus* and *Holocanthus* spp.

angel food A white sponge cake made with egg whites and leavened by air

angel food cake An unshortened cake containing egg whites, flour, sugar, and salt; air beaten into the egg white produces the leavening.

Composition: 134–250 mg Na/ $\frac{1}{12}$ cake (56 g)

angelica (angelique; *Angelica archangelica*) 1) A many-blossomed, large biennial herb of which the leaf stalks (which resemble rhubarb) and midribs are used as food garnishes and confections; grown in cold climates

Part	Form	Use
Root	Essential oil	Gin
Seed	Essential oil	Vermouth, chartreuse
Young stems and leaves	Crystallized with sugar	Confectionery
	Essential oil	Decorating

Storage (root oil): full tight, glass containers in the dark (sp. gr. and viscosity increase on storage)

2) Several different types of alcoholic beverages are named after this plant; including a white dessert wine.

See Part 2: Essential Oils

angelica liqueur Green, herb liqueur

angelique See **angelica**

angharaghul Dried hard spheres of fermented milk or milk curds

angico gum (Brazilian gum) A brown gum from a South American tree used in tanning and varnishes

See Part 2: Gum Distribution

ang-kak A red food-coloring agent made from rice fermented (by mold)

ang-khak An oriental food made from fungus growth on rice

See Part 2: Fungi Food Products

angler A 3- to 5-ft food fish

Angler, (synonyms, lesser weever, stingfish), *Trachinus vipera*

Angler (Japan), *Lophius litulon*

Angler (Northwest Atlantic; synonym, goosefish), *L. americanus*

angler fish A white- and flaky-fleshed grouper-type fish; United Kingdom (synonyms, monkfish, fishing frog, or silver salmon), *Lophius piscatorius* Linnaeus

angliskaia gorkaia A cordial made from brandy and an infusion of apricots

angola pea See **pigeon pea**

angora A fleece breed of goat originally from Asia Minor whose fleece is used to prepare mohair cloth

angostura bitters An extract from the bark of *Gali-
pea officinalis*, used to flavor drinks

See Part 2: Essential Oils

angoumois grain moth (*Sitotroga cerealella*) An insect that attacks wheat

angstrom (Å; A.U.) A measure of length

1 Å = 0.1 millimicron = 1 nanometer (nm)

= 10^{-4} micron (μ m) (10^{-4} = 0.0001)

= 3.937×10^{-7} inch (in.)

= 10^{-7} millimeter (mm)

= 10^{-8} centimeter (cm)

= 10^{-10} meter (m)

angular leaf spot See **cercospora leaf spot**

Angus See **Aberdeen-Angus**

See Part 2: Beef and Dual-Purpose Cattle

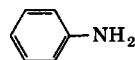
anhydride A compound obtained by removing a molecule of water from an acid, e.g., CO_2 is the anhydride of carbonic acid (H_2CO_3). Amino acids may be considered the anhydrides of proteins by hydrolysis.

anhydrite See **calcium sulfate**

anhydrous Of a solid, containing no water of crystallization, or water closely bound to the molecule as in a hydrate; of a gas, not dissolved in water

anhydrous ammonia See **ammonia, anhydrous**

aniline A colorless coal-tar or indigo derivative that is the basis for many brilliant biological stains. It is quite toxic.



Animal and Plant Health Inspection Service (APHIS) A federal agency responsible for meat inspection

animal fat Any natural occurring or refined and processed fat from any animal source; a product obtained from the tissues of mammals and poultry; contains not less than 90% total fatty acids, not more than 2.5% unsaponifiable matter, and not more than 1% insoluble matter

See Part 2: Saturated Fatty Acids

animal foods Human foods obtained from animal sources

See Part 2: Animal Foods, Composition

animal protein factor (APF) See **vitamin B₁₂**

animal oil See **animal fat**

animal starch See **glycogen**

See Part 2: Sweetening Compounds

animation An abundance of life; opposite of sleepiness or dullness

anion A negative ion, e.g., the chloride ion (Cl^-) formed when sodium chloride (NaCl) ionizes in water

See Part 2: Sanitizers

anionic Containing a negative charge or charges

anis An aniseed-flavored (*Pimpinella anisum*) herb liqueur

anise (*Pimpinella anisum* L.) An annual, 2-ft tall, herb (in the parsley family; *Umbelliferae*) that bears small ($\frac{3}{16}$ -in.), hard grayish brown, ribbed, aromatic fruit that is used for flavoring beverages, soups and sweets; flavor is sweet; aromatic, licorice-like odor and taste; leaves are used as a condiment and garnish. Dry seed from a Mediterranean plant used as spice. Thin to 8 in. apart in 18-in. rows.

30 anise (*Pimpinella anisum* L.)

Sources:

Egypt
Spain

Uses:

Seed—flavoring wine, seasoning food, condiment
Oil (from seed)—aromatic, volatile, agreeable odor, warm sweetish taste
Leaves—raw salad, garnishes, flavoring
For flavoring in beverages, bread, cookies, rolls, soups, and sweets

Available forms: whole and ground (coarse to medium)
Matures in 75 days

Composition (dry): moisture 9–10%; protein 17–18% (fresh 5–6%); fat 15–16%; carbohydrate 50–51%; fiber 14–15%; ash 6–7% (fresh 2 v/w); not more than 9% total ash; not more than 1.5% HCl-insoluble ash

Storage (seed): cool, dry, dark place

See **star anise**

See Part 2: Flavoring Agents, Natural; Flavor Ingredients, Taste and Flavor Type

aniseed See of the anise See **anise**

See Part 2: Essential Oils

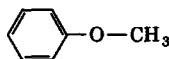
anise oil A clear to pale-yellow oil steam-distilled from dried ripe fruit of star anise (*Pimpinella anisum* or *Illicium verum*) mixed with water and alcohol; flavor is very strong; used as a food-flavoring agent; optical rotation -2° to $+1^{\circ}$; refractive index 1.553–1.560 at 20°C ; solidification point, now lower than 15°C ; sp. gr. 0.978–0.988 g/ml

Storage: full, tight container in cool place

anise seed Composition: moisture 9.5%; protein 17.6%; lipid 15.9%; carbohydrate 50.0%; fiber 14.6%; ash 1.9%

anisette A sweet, aniseed-flavored (*Pimpinella anisum*) herb liqueur; a French, colorless liquor distilled from fennel, anise, and coriander seed, fortified with brandy, and sweetened

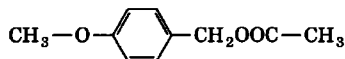
anisole



Methylphenyl ether; used as a flavoring agent in food
Storage: full, tight, glass container in a cool, dark place

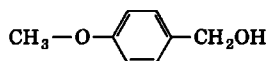
anisotropic Yielding different characteristics in different directions; predetermined axis

anisyl acetate (*p*-methoxybenzyl acetate)



A floral, fruity, flavoring agent used in food
Storage: a full, tight, glass container in a cool place, protected from light

anisyl alcohol



A floral food-flavoring agent
Storage: full, tight, glass container in a cool, dark place

anjou

1 lb, fresh, pared, cored, and coarsely chopped
= 3 cups

ANL (ammonium nitrate and lime) A neutral fertilizer material made from ammonium nitrate (NH_4NO_3) and lime; 9% CaO , 7% MgO

annatto (anatto; annotto; arnatto; arnotto) A vegetable of brown-red color from the fruit (seed) of the *Bixa orellana* L.; used in coloring oils and food

annatto extract A food color See **bixin**

annealing A heating and cooling process

anniviers A semihard cheese made from cow's milk, with a full, fruity flavor

annonaceous fruit (custard apples) A small tree that bears a multiple fruit with a scaly surface. Light, yellow flesh of round or heart-shaped fruit; eaten both raw and cooked

Varieties:

Atemoya—hybrid of Cherimoya \times Sugarapple

Bullock's Heart—buff or red-brown heart-shaped fruit that is firm, granular, and sweet

Cherimoya—green fruit with a pineapple-like flavor

Ilama—similar to Cherimoya but grown in lowlands

Soncoya—large fruit

Sour Sop—fruit has soft spine on green rind; flesh is white and acid; 4–5 lb

Sweet Sop (Sugarapple)—similar to Cherimoya but without the aroma; sweet custardlike flesh

Raw composition: moisture 71–82%; protein 1–2%; fat 0.3–0.6%; carbohydrate 16–25%; ash 1%

annot A valençay-type cheese made from goat's or sheep's milk and matured for 2 months

annual A plant with a 1-yr life cycle (seed to seed)

anode 1) The positive electrode in an electrolytic cell. 2) The electron-collecting element in a tube. 3) The electrode through which current enters an electrolyte

anodized can Meat can with an aluminum cleat welded to the end of the can to aid in prevention of corrosion and discoloration

anodyne A substance that relieves, reduces, or eases pain; a soothing substance

anolini An envelope of pasta filled with bread, cheese, eggs, and beef stew

anomaly An irregularity or abnormality

anorectic (anoretic; anorexic) Without appetite

anorexia Pathological absence, lack, or loss of appetite or of behavior characteristic of hunger in the presence of energy needs and food

anorexia nervosa (nervous loss of appetite) Starvation disease

anosmia Complete inability to smell or inability to smell particular substances

anoxia Oxygen deficiency to the tissues that causes permanent damage

ansgar A tilsit-type cheese

ANSI American National Standards Institute. This organization sets standards for many areas of technology.

ant An insect; attracted to plants by aphid honeydew
antacid Substance that neutralizes or counteracts acidity

antagonism The competitive or inhibiting effect of one substance upon another of similar molecular structure, e.g., between paraaminobenzoic acid and sulfanilimide. Substances having this effect are called antimetabolites. The antigen-antibody relationship is based on this behavior. *See also* **antibody**

ant, carpenter A type of ant that hollows out wood for a nest, leaving sawdust

ante- Prefix meaning before

ante mortem Before death

anterior *See* **ventral** (belly). *See* **cranial** (front or head) in comparative anatomy

anterior pituitary *See* **pituitary**

antetaste A prior taste; precedes the main taste

ant, fire A type of ant that builds a cone-shaped mound in soil and nests in walls. Some people are allergic to its sting.

anthelmintic A substance or compound that expels or destroys internal parasites or intestinal worms

anther Pollen-bearing end of stamen

See Part 2: Flower, Perfect

anthermis Liqueur flavored with mint

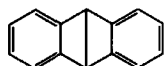
anthocyanin A red plant pigment; also found in blue and purple plants

antholyti A thick, wrinkled, light-yellow, Greek cheese

anthony *See* **runt**

anthotiri A soft, white cheese made from sheep's milk, usually flavored with herbs or honey

anthracene $[C_6H_4(CH_2)_2C_6H_4]$ A fused-ring aromatic hydrocarbon obtained by distillation of coal tar



anthracite *See* **coal**

anthracnose 1) A disease of beans that causes dark circular leaf spots, cankered stem, and cratered pods. 2) A common and widely distributed rot of ripe tomatoes. Infected tomatoes first show water-soaked spots that are slightly sunken; the spots enlarge, darken, become more sunken, and often develop targetlike markings; the center of the spot may turn tan and develop dark specks.

Control: captafol, chlorothalonil, maneb, zineb

3) A fungus (*Elsinoe veneta*) that affects the canes, leaves, and petioles of raspberry (black and red), blackberry, and strawberry plants. Raised spots ($\frac{1}{8}$ in.) with gray centers and red margin are noted.

Control: good air drainage, anthracnose-free plants and fungicide spray

4) A disease of watermelon that produces water-soaked spots on the fruit. 5) Bird's eye rot—An American bunch grape fungus disease found in sections of the northeastern and southeastern states. 6) Black spot, ripe rot—Small, light-brown, circular dis-

colorations (fungus) on the skin of avocados, mangos, papayas, and citrus fruit. Large decayed areas are found on overripe fruit; the decay penetrates deeply into the flesh. In papayas, a saucerlike depression develops and as it enlarges it has brown to black centers often covered with a scaly mass; the causal fungus is *Colletotrichum gloeosporioides* and normally enters through breaks in the skin. Chilling to 45°F will retard the rotting, but many avocados are subject to chilling injury below 55°F.

Control: hot water treatment (130°F for 5 min.)

See Part 2: Sorghum Diseases

anthracnose rot (gloeosporium fruit rot) A fruit rot of bananas caused by *Gloeosporium musarum*
 Manifestations of the disease:

Finger stalk rot—injury to individual finger stalk; followed by infection of the tissue, which becomes brown, slowly involving the entire finger, and finally turns black

Spotting—infection enters through the peel (injury is common at harvest); small spots increase in size and turn black; largely confined to the peel

Ripe-fruit rot—superficial brown spots turn black, enlarge, and coalesce

Tip rot—the flower is infected and rot appears as fruit is turning yellow; tip darkens in color and underlying fruit decays

anthrax Pathogenic food-borne (in infected meat and milk) bacterial infectious disease of humans and animals caused by *Bacillus anthracis*; vegetative cells are killed by pasteurization; spores survive 3–5 min. at 100°C.

anti- Prefix meaning against

antiberiberi *See* **thiamin**

antibiotic A substance produced by microorganisms that can inhibit or destroy other microorganisms; a substance that occurs in nature and is usually of mold origin; inhibits the growth of bacteria

See Part 2: Antibiotic Standards; Wastes, Agricultural and Industrial

antibiotic medium (seed agar) A microbiological medium used for preparation of test cultures prepared for antibiotic assays of ointments, tablets, milk, and for assaying antibiotics

See Part 2: Microbiological Examination of Dairy Products; Microorganism, Culture Media, Dairy and Food Products

antiblacktongue factor *See* **niacin**

antibody A protective substance formed in the blood (serum) by lymphocytes when antigens (foreign proteins, usually bacteria or viruses) are present. Both antigen and antibody are proteins. The antibody is able to inhibit or destroy the invading organism, partly as a result of the antagonism between the molecules of antigen and antibody. A form of gamma globulin. Specific immune-reaction material that works against disease

anticaking agent An additive used to prevent caking of dry material; in salt, cures, or seasonings (up to 2% in combination in meat-curing ingredients). Substances used are as follows (asterisk indicates use

in table salt):

Calcium aluminum silicate*
 Calcium carbonate
 Calcium silicate*
 Calcium stearate
 Glycerol (glycerin)
 Magnesium carbonate
 Magnesium silicate*
 Propylene glycol
 Silica gel
 Sodium aluminosilicate
 Sodium calcium aluminosilicate
 Sorbitol
 Tricalcium phosphate
 Tetrasodium pyrophosphate

In salt (13 ppm in meat-curing ingredients) yellow prussiate of soda (sodium ferrocyanide decahydrate)

anticipated delay report A regular report, issued by both manufacturing and purchasing to the material planning function, noting jobs or purchase orders that will not be completed on time, the reasons why, and the new completion date

anticoagulant A substance used to prevent the coagulation of liquids containing colloids, i.e., heparin, dicoumarin, oxalate, citrate, hirudin

anti-egg-white-injury factor See biotin

antifoaming agent An additive used in low percentages to retard foaming of liquids, i.e., silicones (fats, methyl polysilicone), octanol, sulfonated oils

antigen Any foreign substance (protein, protein polysaccharide complex, carbohydrate, etc.) that when incorporated into an animal is identified as foreign and causes the lymphocytes to produce specific antibodies (immunologic response), which bind the antigen; a substance that will stimulate production of antibodies See antibody

See Part 2: Microorganism, Media

anti-gizzard-erosion factor Vitamin B₁₂

antiguas A Guatemalan, high-grown type of coffee

antihemorrhagic See vitamin K

antimetabolite An inactive substance that is similar to and tends to replace an essential metabolite See antagonism; metabolite

antimony (Sb, from Lation stibium) A metallic element; Group VA of the Periodic Table; at. no. 51, at. wt. 121.76; oxidation states +3, +5, -3; electron configuration 2-8-18-18-5

orbit K L M N O

Used as a glaze on enamel and pottery; may be extracted by lemonade

antineuritic See thiamin

antinutritional factor Component of food that hinders the nutritional response

antioxidant A substance that retards oxidation of organic substances, including fat rancidity and enzymatic browning; e.g., propyl gallate, ascorbic acid, butylated hydroxyanisole (BHA), butylated hydroxytoluene (BHT). Not more than $\frac{3}{1000}$ of 1% BHA or $\frac{1}{1000}$ of 1% citric acid may be used in unsmoked dry sausage during preparation for trichinae treatment.

See Part 2: Antioxidant Activity; Antioxidant Mixtures; Antioxidants, Formulas; Antioxidant Structure

antipasto Before the meal; a first course of relishes; hors d'oeuvres or appetizers, usually eaten with a fork; served before the main course; smoked or pickled meat or fish; melon wedges, crisp vegetables, stuffed eggs, cheese, or peppers; mixture of mushrooms, fish, and pimiento; often a fish relish made from artichokes, capers, olives, olive oil, sardines, tuna, and vegetables

antipasto salad A salad made from artichoke hearts, black olives, lettuce, radishes, salami, and tomato

Dressing: vinaigrette with chives, garlic, and tarragon

antipellagra Niacin

anti-pernicious-anemia factor See vitamin B₁₂

antirachitic vitamin See vitamin D

antiscorbutic vitamin See ascorbic acid

antiseptic An Agent that prevents, arrests, or inhibits the growth or infection of microorganisms or infectious agents. A bactericidal material, especially for use in contact with the body of humans or animals, e.g., hexachlorophene, hydrogen peroxide, iodine, silver compounds, and thiomersal. Antiseptics not identical with disinfectants See also disinfectant

antiserum A serum that contains antibodies; it is obtained from animals that have been subjected to antigen.

See Part 2: Microorganism, Media

antispasmodic A compound that will prevent or relieve cramps or spasms

antisterility factor See vitamin E

antitoxin Antibody that neutralizes toxin

antivitamin A substance that inactivates or inhibits the function of a vitamin

antixerophthalmia See vitamin A

ant lion (doodle bug) A brown, rough insect ($\frac{1}{2}$ in. long) that has sickle-shaped jaws and lives at the bottom of a conical pit in sand
 Benefit: feeds on ants and other insects

ant, pharaoh Tiny, yellow ants found in the home

antrum An anatomic cavity or chamber; first part of the stomach

AOAC Association of Official Analytical Chemists (formerly, Association of Official Agricultural Chemists)

AOAC official method A method that has been subjected to an extensive interlaboratory study in which six or more laboratories participate. If this process provides results that establish the acceptability of the method, it is accepted as an official procedure by the AOAC

Aol A medium-strength ale made in Finland

AOM See active oxygen method

AOQL Average outgoing quality limit

aoules Dried, hard spheres of fermented, skimmed goat's milk or milk curds

a ovelheira A soft, salty cheese made from ewe's milk

A.P. 1) As purchased. 2) See American plan; pension

apagado Fresh grape juice in which fermentation is stopped by adding 16–18% alcohol

apatite Rock containing as high as 40% phosphoric acid

apennino (alpino) A dry, uncooked, unsmoked, mildly seasoned (with garlic), Italian-style, American salami sausage made from coarsely chopped beef and pork and that is fermented and stuffed into a pork casing. The product is air-dried for 60–100 days.

apepsia Absence of digestion

aperient Laxative

aperitif A short drink of an alcoholic beverage offered before dinner to increase the appetite; from Latin *aperire*, to open

aperitif wine A slightly bitter, flavored, often red, wine with a high alcohol content, usually consumed before meals

apex The tip of a cone or cone-shaped structure

APF (animal protein factor) See vitamin B₁₂

apfelwein Cider that is fermented

aphagia Inability to swallow

aphid (plant louse) A small (less than $\frac{1}{8}$ in.), soft-bodied insect that can have a pink, light or dark green, yellow, or black body, is oblong, has six legs, can be winged or wingless, and has sucking mouth parts; host plants include most fruit trees.

Damage: The aphids cluster on stems and under leaves and suck sap from tree parts, causing leaves to curl and thicken, turn yellow, and die, or honeydew secreted by the aphids covers the leaves and fruit, and a black sooty mold grows on it.

Control: A dormant fruit tree oil spray before foliage breaks; insecticides, such as malathion, diazinon

Aphids can damage lettuce by

Reducing plant vigor

Contaminating the plant with honeydew and cast skins

Transmitting plant diseases

The plant is destroyed if infestation is heavy. See **bean aphid**; **green peach aphid**; **apple aphid**; **melon aphid**; **woolly pear aphid**

See Part 2: Insect Control

aphid lion (lacewing) An insect; the adult has gauzy green wings, yellow eyes, and fragile hairlike antennae and deposits eggs singly on stalks; The larva is yellowish or mottled red or brown, has a long ($\frac{3}{8}$ in.), narrow body that tapers at both ends, and has large sickle-shaped jaws and prominent projecting hairs.

Benefit: larva feeds on aphids, mealy bugs, scales, thrips, and mites

APHIS See **Animal and Plant Health Inspection Service**

aphthous fever See **foot and mouth disease**

apiti Acidic, baked dumpling made from maize

apitiv A fortified, alcoholic, sherry-type wine

apitsi Baked chindanda made from maize and plantain

APL A high-level programming language for special applications

apoenzyme The protein part of an enzyme to which

a coenzyme can attach; an inactive protein that when attached to a coenzyme becomes active

apoenzyme +	Coenzyme	→	enzyme
(specific	(nonprotein,		(active
protein,	inactive)		biochemical
inactive)			catalyst)

apollinaris A Rhine, effervescent, mineral water

aposisia Lack of thirst

apositia Lack of desire to eat

apothecary wrap See **drug store wrap**

appalam Thin, crisp, dried sheets of legume or rice flour

apparent consumption See **food supply data**

appearance The visual size, shape, color, and conformation of food

appenzell A full-fat, smooth, firm, yellow, Swiss cheese made from cow's or goat's milk, with brown wrinkled skin and small holes; similar to Emmentaler

appenzeller A smooth, firm, cow's-milk cheese from Switzerland that is seasoned with wine and spices during the curing period

appenzeller-siedwurst A moist, cooked or uncooked, unsmoked, medium-seasoned, Swiss sausage made from finely chopped beef, pork, and veal stuffed into a beef casing

appenzel raes A sharp, gray, small-holed cheese made from skimmed milk and steeped in wine

appertisation Canned fish

Appert, Nic(h)olas (1795) A Frenchman who first preserved food by thermal processing in a sealed container (canning)

appetite A complex of sensations by which the organism is aware of a desire or craving for and anticipation of the ingestion of palatable food; desire for food or drink

appetiter A moist, uncooked, smoked, medium-seasoned, East German sausage made from finely chopped beef and pork stuffed into an artificial casing

appetitost cheese A sour cheese made from butter-milk

appetitsild Sprats that are spice-cured and packed in vinegar, salt, and spices

appetizer A food used to introduce a meal; it includes hors d'oeuvres, cocktails, and canapés.

See Part 2: Salad Dressing or Mayonnaise Variations

appetizing Appealing or tempting to the appetite

apple A fleshy, round fruit (pome) of the tree of the genus *Malus*; there are more than 3000 apple classifications; originally from central Asia

Average yield: 75–200 lb/tree

Bearing age: 2–5 yr

Sprays required: 8–15/yr

Useful life: 15–20 yr

Grades:

U.S. Extra Fancy

U.S. Fancy

U.S. No. 1

U.S. No. 2

Combinations of grades

34 apple

Uses:

Apple butter

Brandy

Canned

Styles: apple butter; applesauce; chunky pieces; peeled and sliced; peeled, in quarters or halves; peeled whole and cored; rings, artificially colored and spiced; unpeeled whole (baked) and cored

Packed in starch, sugar, and spices as pie filling; thickened, sweet, and spicy syrup; or water

Cider

Dessert fruit

Dried

Dumpling

Jelly

Pies

Pudding

Vinegar

Most apples need more than one variety for cross-pollination.

Harvest time	Variety in order of harvest time	Fruit	Use
Mid-July–mid-Aug.	Vista Bella		
	Julyred		
	Jerseymac		
	Lodi	Yellow	Cooking, eating
Mid-Aug.–late-Sept.	Viking		
	Tydeman Early	Red	Eating, storage
	Gravenstein	Red, tart	Salads, sauces, pie, baking
	Paulared	Yellow, red bluish	Eating, sauce, pie
	Prima	Scab-resistant	Eating, cooking
	Cortland	Red stripe	Snacks, salads, cooking, all-purpose
Late Sept.–late Nov.	Macoun		
	Spartan		
	Jonathan	Red, rounded, tart	Cooking, eating, storage, cider, sauce, pie, baking
	Rhode Island Greening	Yellow, firm, tart	Cooking, eating baking, sauce, pie
	Sour type Delicious		Eating
	Priscilla	Scab-resistant	
	Jonagold		Cooking, eating, storage
	Golden (Yellow)	Yellow-green, golden, round	Eating, storage, baking
	Delicious		
	Empire		
	Spigold		
	Grimes Golden	Yellow, tart	Storage, fresh, sauces, cider, eating, pie, baking, cooking
	Northern Spy	Red, firm	Snacks, storage, salads, all-purpose, cooking, baking eating
	Stayman Winesap	Red, purple undertone, round firm, tart	Storage, cider, fresh, baking, sauce, all-purpose, cooking, dessert, eating, pie
	Idared		
	Red Delicious	Red, large	Eating, storage
	Red Rome	Firm	Storage, baking
	McIntosh	Red, tart	Storage, cider, pie, fresh, sauce, eating
	Mutsu	Green-yellow	Eating, sauce, pie, baking
	Melrose	Red	Eating, sauce, pie, storage
	Yellow Newtown	Yellow, tart	Storage, eating, pie, sauce
	York Imperial	Red, yellow, spots, firm, tart	Storage, cooking, dessert baking, sauce, pie
	Baldwin	Red	Dessert, cooking, storage

20–30% refuse (peeling and core)

1 barrel = 3 bu = 150 lb

1 Eastern box (11 × 3 × 17 in.) = 54 lb

1 Northwest box (10.5 × 11.5 × 18 in.)

= 44 lb (size indicates approximate number per box, usually ranges from 36 to 256)

= 29–35 pt, frozen

- 1 case (24) No. 2 $\frac{1}{2}$ cans = 1.4 bu, fresh
 1 bu, fresh = 48 lb (40–50 lb)
 = 32–40 pt, frozen
 = 16–20 qt, apple slices
 = 16–22 qt, canned
 1 bu, dried = 26 lb
 1 lb, fresh = 4 small apples
 = 3 medium apples
 = 2 large apples
 = 3 cups diced
 = $2\frac{3}{4}$ –3 cups, pared and sliced
 = $\frac{1}{2}$ of a 9-in. pie
 = 3–4 servings
 1 lb, dried = 8 lb, fresh
 = $4\frac{1}{2}$ cups, dried
 1 qt, canned = 2.3–3 lb, fresh
 = 7–8 med. apples
 16 oz, canned = 4 servings if liquid is used
 = 2–3 servings if drained
 1 pt, frozen = 1.25–1.5 lb, fresh
 One 8-oz apple, dried = 8 servings
 1 cup, dried, cooked, sweetened = 8.4 oz
 1 cup, dried = 105 g (3.7 oz)
 1 cup, sliced = 1 med. apple
 1 cup, thinly sliced = 8 oz
 1 cup, pared and sliced = 120 g (4.3 oz)
 1 cup, peeled, cored, thinly sliced
 = 0.8 large cooking apple
 1 cup, cored and chopped = 0.8 med. apple
 1 cup, finely chopped = 2 small apples
 1 large apple, peeled, shredded
 = 1.5 cups
 1 med. apple = 0.5 cup, grated
 = 1 cup, shredded
 1 med. apple, peeled, cored, chopped = 0.7 cup
 1 serving = 1 med. fresh apple
 = $\frac{1}{2}$ cup sauce
 = $\frac{1}{3}$ cup, dried
 Comparison (pared), 70–80% edible:

Composition	Fresh	Dried	Dried apple nuggets
Moisture (%)	85	24	1.6
Protein (%)	0.2	1	1.4
Fat (%)	0.3	1.6	1.0
Carbohydrate (%)	12–14	72	94
Sugar (%)	8–11		
Ash (%)	0.3	2	2
Fiber (%)	3.5		
pH	2.9–3.4		
Vitamin A (IU/100 g)	90		
Ascorbic acid (mg/100 g)	5		

To ripen: Keep in a cool room (60–70°F) until ripe; room temperature will ripen 10 times faster than refrigerated temperature. To prevent darkening after cutting, dip in lemon, lime, orange, grapefruit, pineapple juice, or ascorbic-citric acid powder.

Storage: cool, dry place or refrigerate (30–31°F) at relative humidity 85–90%

Do not wash until served.

Freezing point 28°F

Use ripe apples within 1 week.

Storage (long-term): apples will be more mealy and less flavorful, contain less acid, and lose pectin

Varieties:

- Used fresh (39% of total)

Grimes Golden	Red Delicious
Jonathan	Winesap
- Dual-purpose (47% of total)

Cortland	Rome
Golden Delicious	Stayman
McIntosh	Yellow Newtown
Newton	Wealthy
- Used for processing (14% of total)

Baldwin	Rhode Island Greening
Gravenstein	Winesap
Northern Spy	York Imperial

Size (in.)	Yield of slices (%)
3	78
2.75	73
2.5	66
2.25	53

See Part 2: Ascorbic Acid; Calories, Daily Recommendations; Canned Spoilage Related to pH; Canned Yield; Flavor Ingredients, Taste and Flavor Type; Food, Composition; Frozen Food Storage; Fruit and Nut Rootstock; Fruit and Vegetables, Diseases; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Cooking; Fruit, Dried, Simmering; Fruit, Frozen Yield; Fruit, Growing Season, Storage Life; Fruit Harvest Dates; Fruit Sauces; Fruit Servings per Pound; Fruit, Simmering; Fruit Storage; Iron; Microwave Cooking, Fruit; Minerals, Food; Minerals (Trace), Limits; Nicotinic Acid, Food; Nutrients in Crops; Organic Acids in Fruits and Vegetables; Pectin Content; pH Values of Biological Materials; Plant Foods, Composition; Potassium; Riboflavin; Riboflavin, Food; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Storage, Dry; Storage Times; Sugar, Fruit; Thiamin; Transit Temperature; Vitamin C; Wastes, Agricultural and Industrial; Wine, Sweet

apple acid Malic acid

apple and thorn skeletonizer An insect; the adult is a small, dark-brown moth and the larva caterpillar feeds on the underside of leaves, which become a mass of webbing and grass.

apple aphid An aphid that is also found on pears

apple base Apple or apple juice added to other fruit; used in making jams, jellies, or preserves

apple brandy (apple jack) A high-alcohol-content spirit distilled from fermented apple juice See **cider**

apple, bush See **apple, rose**

apple butter A light- to dark-brown, soft mixture made by cooking apple pulp (fresh, canned, or dried) to a thick paste; spices (cloves, allspice, and cinnamon are often used) may or may not be used; less sugar is used than for jams and jellies; Sometimes cooked in vinegar and sugar.

Composition: Moisture 52%; protein 0.4%; fat 0.8%; carbohydrate 47%; ash 0.4%

Defect action level: average microscopic mold count of 12%, average of 4 rodent hairs/100 g, average of five insects of equivalent (not including mites, thrips aphids, or scales)/100 g. See **butter (fruit)**

36 apple, candied

apple, candied A stick is inserted into a fresh apple and it is dipped into a mixture of sugar, corn syrup, water, vinegar, and food coloring

apple, canned Available forms:

Whole (cored like baked apples)

With peel

Without peel

Slices

Apple rings (colored and spiced)

Chunky pieces

Packed in the following:

Water

Thickened, sweet, and spicy syrup

With starch, sugar, and spice (pie-filling mix)

apple, chopped Dried quarters or smaller pieces of peeled and cored apples

apple cider butter Fruit butter made from apple cider, fresh apples, and sugar

appled grades

USDA	Western states
Extra fancy	Extra fancy
Fancy	Fancy
No. 1	C

apple jack Brandy distilled from apple cider; beverage produced by freezing hard cider (to concentrate)
See **apple brandy; cider**

apple jin A liqueur made from apples

apple juice Unsweetened apple juice that is filtered through a fine (finer than for cider) filter and is often pasteurized by mild heat. See **cider**

apple, kangaroo (*Solanum aviculare*) Egg-shaped, mealy-textured, sour-sweet, yellow fruit of an Australian grass

apple, love See **tomato**

apple maggot An insect; the adult is a black fly that has white bands on the abdomen, has green eyes, is $\frac{1}{4}$ in. long, and lays eggs on the host plant (apple, crab apple, hawthorne, blueberry, huckleberry, European plum, cherry, and pear). The maggot is yellowish white and up to $\frac{3}{8}$ in. long. It creates a small puncture, pitted and distorted areas in the skin, and tunnels through the flesh that turn brown and rot; stored apples also rot.

Control: discard all dropped fruit; use an insecticide

apple, malay A 2- to 3-in. fruit grown on a variety of myrtle trees in the South Pacific

apple mint (royal mint; *Mentha rotundifolia*) A member of the mint family that has more delicate flavor than spearmint or peppermint and is used for sauce and jelly

apple pie

$\frac{1}{8}$ of a 9-in. pie (71 g) = 300 calories
= 208 mg Na

See Part 2: Baked Products, Frozen Storage Life

apple pie spice Includes cinnamon, cloves, nutmeg or mace, allspice, and ginger

apple polish Carnauba wax from Brazilian wax palm. The wax produces a sheen and retards moisture loss. Does not wash off.

apple pomace It is often dehydrated and used as animal feed

Composition (dehydrated): dry matter 89%; protein 4.6%; fiber 18%; fat 4.7%; ash 3.1%;

apple red bug An insect; the adult is orange-red with dark markings and up to $\frac{1}{4}$ in. long. The nymph is bright red and smaller than the adult; it punctures fruit and causes spots and deformation.

apple, rings Dried, transversely cut slices from peeled and cored apples

apple, rose (apple, bush) A large berry grown in Malaya

applesauce A sauce made from apples (a blend of several types) and sugar; pink applesauce is made by leaving the skin on red apples during cooking. Sometimes cinnamon, nutmeg, grated lemon rind, or raspberry-lemon concentrate is added.

Available forms:

Chunky texture

Pureed

Spiced

Combined with raspberries, strawberries, pineapple, apricots, etc.

1 case (24) No. 2 $\frac{1}{2}$ cans = 1.2 bu fresh

1 lb apple sauce = 1.75 cups

1 cup apple sauce = 260 g (9.1 oz)

Composition	Unsweetened	Sweetened
Moisture (%)	88	76
Protein (%)	0.2	0.2
Fat (%)	0.2	0.2
Carbohydrate (%)	11	24
Ash (%)	0.3	0.2
Fiber (%)	1.4	1.3
pH	3.3	3.3

See Part 2: Microwave Cooking, Fruit

apple, star (*Chrysophyllum cainito*) A soft, custard-textured, eggplant-like, tropical fruit with black seed, purple skin, and purple flesh, produced by a West Indian tree

Varieties:

Green

Purple

apple tea Tea made from fresh or dried apple parings

apple (cider) vinegar A vinegar condiment made from apple juice, containing the following amounts:

4% acetic acid (min.)

1.6% apple solids (max. 50% reducing sugars)

0.25% apple ash (min. water-soluble ash 0.01% of phosphoric acid, P_2O_5)

Standard for household use: Light brown to deep brown

apple wine Carbonated cider (fermented)

applewood A cheddar-type cheese smoked in applewood smoke

Applied Nutrition Programme (ANP) Educational activities using modern knowledge of food nutrition to improve local food production, consumption, and distribution in favor of the local communities

apricot (*Prunus armeniaca*) A medium-sized tree (native to China) that bears fruit from pale yellow to

deep orange, which is eaten fresh, canned (juice pack, unsweetened, light syrup, heavy syrup, extra heavy syrup), dried and frozen, or made into jam; intermediate between peach and plum

Three species of plum are known as apricots:

Prunus armeniaca (common)

Prunus dasycarpa (black)

Prunus mume (Japanese)

The fruit must be tree-ripened to have full flavor and does not ship well.

Immature—very firm, pale yellow or greenish yellow

Mature—yield to gentle pressure, golden orange

Overmature—soft, dull color

Peeling—scald in boiling water for 45 s and then into cold water

Canning—should be harvested firm ripe, not mature

Drying—should be harvested fully mature

Canned styles available:

Peeled slices

Peeled halves

Peeled whole (with or without pits)

Unpeeled halves

Unpeeled halves [packed in water with no sugar (water pack)]

Unpeeled [pitted, without liquid or sugar (solid pack)]

Unpeeled halves, [soft, fully ripe, picked from area of the tree exposed to sun, high sugar content, good flavor, soft texture, cloudy syrup (mello ripe)]

Unpeeled whole

Packed in syrup

Heavy

Extra heavy

Dried forms:

Unpeeled (most)

Peeled

Composition	Canned	Fresh	Dried
Moisture (%)	77	85	25
Protein (%)	0.6	1	5
Fat (%)	0.1	0.2	0.5
Carbohydrate (%)	21	13	66
Ash (%)	1	0.7	3
Vitamin A (IU/100 g)		2790	
Ascorbic acid (mg/100 g)		7	
Sugar added			4 tsp/4-6 halves
pH		3.3-4.0	3.4-4.0

Number of pieces in a can

Grade	Halves		Whole	
	No. 2½ can	No. 10 can	No. 2½ can	No. 10 can
Fancy	23	70	10	40
Choice	28	100	14	50
Standard	35	135		

Variety	Flavor	Size or color	Firmness	Pit burn	Pollinated by	Most popular
Blenheim (Royal)	Excellent	Small-med. golden	Med.	Yes	Same variety	×
Castleton					Different variety	
Earlirl						
Early Golden	Rich, deep	Large; orange with blush				
Goldcot	Good	Large, golden skin, orange blush			Same variety	
Goldrich					Same variety	
Manchu					Same variety	
Modesto					Same variety	
Moongold					Different variety	
Moon Park		Dark; more meat				
Perfection					Different variety	
Riland					Different variety	
Reliable					Same variety	
Royal	Excellent	Small-med.	Med.	Yes	Same variety	×
Superb					Same variety	
Sungold					Different variety	
Tilton	Average	Large; light color	Firm	Med.	Same variety	×
Wenatchee (Moorpark)					Same variety	

6% refuse (pits)

1 bu, fresh = 48 lb (40-50 lb)

= 60-72 pt, frozen

= 20-24 qt, canned

1 lug (4.6 × 12.5 × 16.1 in.) = 24 lb

38 apricot (*Prunus armeniaca*)

1 crate (4.5 × 16 × 16.1 in.) = 22–24 lb
= 28–33 pt, frozen

1 lb, fresh
= 8–12 med. raw apricots (small, 20/lb; large, 10/lb)
= 2½ cups, fresh sliced (155 g or 5.5 oz/cup)
= 56 med. dried apricots
= 3 cups dried apricots (150 g or 5.3 oz/cup)
= 8–12 whole, canned
= 12–20 halves, canned
= 2.5 cups, cooked
= 4–6 servings
1 lb, dried = 85 halves
= 12–17 servings
= 5–6 cups cooked apricots
= 6–8 lb, fresh
1 pt, frozen = 0.7–0.8 lb, fresh
1 cup, fresh halves = 5.5 oz
1 cup, canned = 8.8 oz
1 cup, dried = 24 large halves
= 40 small halves
= 3.0–5.6 oz
1 cup, dried, cooked = 26 halves
= 8.6–10.4 oz
1 serving = 2 med. apricots
= 5 dry halves

To ripen: Keep at room temperature, in open air, and out of sun until flesh begins to soften.

Storage: when ripe, store uncovered in refrigerator (31–32°F) and 85–90% relative humidity; use in 3–14 days; frozen (0°F) storage life, 1 yr

See Part 2: Flavor Ingredients, Taste and Flavor Type; Frozen Food Storage; Fruit and Nut Rootstock; Fruit and Vegetables, Composition; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Cooking Fruit, Dried, Simmering; Fruit, Frozen Yield; Fruit, Growing Season, Storage Life; Fruit Harvest Dates; Fruit Servings per Pound; Fruit, Simmering; Fruit Storage; Microwave Cooking, Fruit; Minerals, Food; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Potassium-Rich Foods; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Fruit; Vitamin A; Vitamin A, Food; Wine, Sweet

apricot brandy Brandy or high-alcoholic-content spirits flavored with dried apricots; brandy distilled from fresh fruit and kernels or infusion of apricots into spirit base

apricot, canned In addition to apricots, may also contain natural and artificial flavors, spice, vinegar, lemon juice or organic acid, or ascorbic acid (no greater than quantity needed to preserve color)

Syrup	Sucrose (%)
Extra light	10–16
Light	16–21
Heavy	21–25
Extra heavy	25–40

apricot kernel paste Paste produced by cooking blanched, ground kernel with sugar

apricot liqueur Infusion of apricots with spirits

apricot nectar Made from fresh apricots or from cooked dried apricots, usually with sugar syrup added; 1.4% protein

1 cup = 8.4–8.6 oz

apricot, slab Dried, flat, halves and irregular shapes and sizes of apricots

aprikosengeist Apricot brandy

apry Apricot liqueur

APT agar Microbiological agar for growth of lactic acid bacteria; often used for heterofermentative lactobacilli that cause greening in meat

See Part 2: Microbiological Media

aptitring A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned (with potato starch and skim milk powder) beef and pork stuffed into an artificial peelable casing

aqa A type of chicha

AQL Acceptable quality level

aquaculture Human-controlled cultivation and harvest of both freshwater and marine aquatic species

aqua fortis Nitric acid (HNO₃)

aquardiente Rum or brandy distilled from fermented grape juice

aqua regia Mixture of three parts hydrochloric and one part nitric acid (3HCl + HNO₃)

aqua vini Brandy

aquavit A dry, clear, white, caraway-flavored liquor (43% alcohol) distilled from grain, potatoes, or sawdust See **akvavit**

aqua vitae Distilled liquor, especially brandy

aqueous Pertaining to water; a solution containing water

aqueous electron (e_{AQ}⁻) A hydrated electron that is the radiolytic product of water

Ar Symbol for the element argon

arabic bread A pocketed, flat bread

arabic gum See **gum arabic**

See Part 2: Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Gum Distribution; Pentosans; Stabilizers; Thickeners

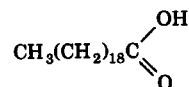
arabinogalactan A food stabilizer, thickener, or texture modifier used in nonstandardized salad dressings and pudding mixes See **larch gum**

arabinose A five-carbon monosaccharide (pentose) sugar found in fruit juices and gum

See Part 2: Sugar, D-Aldehyde

arachichu A South American tree that produces edible fruit

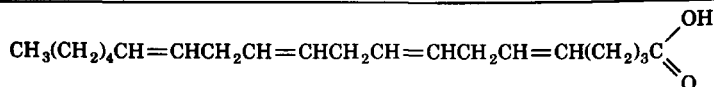
arachidic acid (arachic acid)



A 20-carbon saturated acid found in peanut oil

See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Saturated Fatty Acids; Wheat, Fatty Acids

arachidonic acid



A 20-carbon unsaturated acid found in animals

See Part 2: Fats and Oils, Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Unsaturated Fatty Acids

arachis oil See **peanut oil**

arad An Edam-type cheese

aradisame Bread baked from dried flour made by fermenting pseudostem of ensete or false banana

arak An alcoholic drink made from dates and flavored with mastik; an alcoholic drink made from grapes and flavored with anise seed See **arrack**

araka See **kumiss**

aralar A lightly smoked, esbareich-type cheese with a brown rind, cured in caves for 1 month

aravis A blue cheese made from goat's milk, flavored with parsley

arbitrage The simultaneous purchase and sale of similar or identical commodities in two different markets in hopes of gaining a profit from price differentials; buying in one market and selling at a profit in another, in order to take advantage of price differences

arbut (*Arbutus undoe*) See **arbutus**

arbutus (strawberry tree) A shrublike tree that produces a red, warty berry that is used to make liqueurs and confectionery

arca A bivalve mollusk that is eaten raw or cooked

archil A coloring material derived from a vegetable and used in food; produces violet-red, blue, or purple colors

arctic char (*Salvelinus alpinus* Linnaeus) A food fish

arctic cisco (*Coregonus autumnalis* Pallas) A food fish

arctic grayling (*Thymallus arcticus*) A food fish

ardennen A dry, uncooked, smoked Belgian sausage (salami) made from medium-chopped, medium-seasoned, beef and pork, fermented and suffed into beef casings

ardennes ham A country-style dry-cured ham produced in Belgium

ardi-gasna An esbareich-type cheese matured for 3-6 weeks

are A measure of area

$$\begin{aligned} 1 \text{ are} &= 119.6 \text{ square yards (yd}^2\text{)} \\ &= 100 \text{ square meters (m}^2\text{)} \\ &= 0.02471 \text{ acre} \end{aligned}$$

area (A) A measure of surface

$$\begin{aligned} \text{Area of triangle} &= \frac{1}{2} (\text{base} \times \text{height}) \\ \text{Area of circle} &= \pi r^2 = 0.7854(d^2) \quad (\pi = 3.1416, \\ &\quad r = \text{radius}, d = \text{diameter}) \end{aligned}$$

$$\text{Square and circle of equal area: side of square} = (d)0.8862$$

$$\text{Area of sphere} = (d^2)3.1416$$

areca nut (betel nut) See **betel**

areches A valençay-type cheese made from goat's milk

arenga palm See **palm**

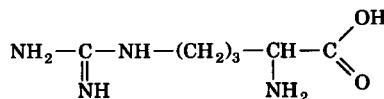
areolar connective tissue Connective tissue in the form of a loose network with a great deal of space between fibers

arepa Corn bread containing cheese

arera Buttermilk

Argentine A food fish
Atlantic, *Argentina silus*
Pacific, *A. sialis*

arginine

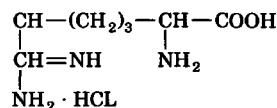


A nonessential amino acid; used in food as a nutrient and as a dietary supplement

Storage: well-closed, light-resistant container

See Part 2: Amino Acids; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

arginine monohydrochloride



Used as a nutrient or dietary supplement

Storage: well-closed, light-resistant container

argon (Ar) An element; noble gas group of Periodic Table; at. no. 18; at. wt. 39.944; oxidation state 0; electron configuration 2-8-8

orbit K L M

0.94% present in air

arhar See **pigeon pea**

ariboflavinosis Deficiency of riboflavin

aridisols Sierozems; desert and red desert soils

arigira Sour, diluted milk with millet, pepper, and honey

aril The external fleshy covering of a seed; an extra seed covering

aristology The art of dining

Arkansas stone See **novaculite**

Arles (d'Arles) A dry, uncooked, unsmoked, French salami-type (similar to Milano) sausage made from

40 Arles (d'Arles)

medium- to coarse-chopped, mild- to medium-seasoned beef, pork, and goat (sometimes made with horse or donkey meat) fermented and stuffed into beef, pork, or artificial casings *See salami, d'Arles*

Arlington A variety of lespedeza (*Sericea*)

arm 1) The upper limb of a human or the forelimb of a vertebrate

See Part 2: Beef Chuck; Beef Cuts; Beef Retail Yield; Bone; Meat Identification; Pork, Cooking; Veal Chart; Veal Cuts; Veal Wholesale Cuts

2) Canes that are left after pruning and that produce the fruiting shoots and canes

armadillo (*Tolypeutes tricinctus*) An armor-plated mammal that is edible

armagnac (brandy of Lafayette) A dry, French, heavy-bodied brandy (40–50% alcohol) distilled from fermented marc residuum of grapes and used as an after-dinner cordial

armavir A Russian panir-type cheese made from sour sheep's milk with added buttermilk or whey

arm bone Humerus

See Part 2: Beef Wholesale Cuts; Lamb Wholesale Cuts; Pork Wholesale Cuts

Armenian food habits

Animal products—eggs

Beverage—black coffee

Dairy—butter, cheese, fermented milk, and sour cream

Grain—rice and wheat

Seasoning—honey, onion, and pepper

Vegetable—broccoli, cucumber, dandelion, eggplant, leek, okra, and tomato

armillaria root rot (crown rot; oak root fungus; shoestring root rot; *Armillaria mellea*) A fungus that attacks pear roots

armored scale *See* scale

arm roast Beef roast made by cutting across the forearm bone

arm steak Steak made from the same areas as an arm roast

Armyworm (*Pseudaletia unipuncta*) A worm whose larva feeds on small grain and native grass and strips the plant of its leaves; it can destroy lettuce plants and is a peanut pest. *See also* fall armyworm

Beet armyworm, *Spodoptera exiqua*

Yellowstriped armyworm, *S. ornithogalli*

See Part 2: Insect Control

arneguy *See* adri-gasna

aroma Fragrance or odor imparted by the volatile constituents of a material, food, essential oil, or oleoresin

aromatic 1) An unsaturated organic compound in which the carbon atoms are joined in a closed hexagonal ring and whose structure is based on that of benzene. Such rings are called carbocyclic when composed only of carbon atoms, and heterocyclic if atoms of other elements are constituents of the ring. *See also* benzene. 2) A fragrant, usually pleasant, spicy, slightly pungent aroma and pungent taste; associated with some plants other than those that flower

aromatic acid An acid in which one or more of the hydrogen atoms of the aromatic nucleus has been replaced by a carboxyl group

aromatic alcohol An alcohol derived from benzene in which one or more of the hydrogen atoms of the benzene ring is replaced by a hydroxyl or hydroxyl-containing group, e.g., phenol (C_6H_5OH) and benzyl alcohol ($C_6H_5CH_2OH$)

aromatic bitters An alcoholic beverage (alcohol content as high as 40%) with a distinctive flavor

aromatic seed Seeds of annual plants used in seasoning

aromes de Lyon A valençay-type cheese made from goat's milk and soaked for 1 month in white wine and dry-cured for 1 month

arracacha (apio; arracacia; *Arracacia xanthorrhiza*) A South American or Mexican root plant used for starch production, used as yams, or cooked like potatoes or sweet potatoes

See Part 2: Starchy Roots, Composition

arrack (arack; arak; mastika; ouzo; raki; zibib) A clear to straw-colored distilled (to various strengths) alcoholic spirit that is fermented from sugar obtained from the palm tree, rice, or molasses and is normally flavored with aniseed *See* palm

arrag *See* kumiss

arran A cheddar-type cheese sometimes colored yellow with annatto

arroba, metric A unit of weight used in Brazil
1 arroba = 0.015 metric ton

arrollado criollo A moist, cooked, unsmoked Argentinian sausage made from finely chopped, mildly seasoned (with cayenne, garlic, marjoram, and vinegar) beef, pork (heads), and wheat flour and cooked in molds lined with caul fat

arrowgrass (*Triglochin*) Popular name for several grasslike plants, such as marsh arrowgrass and seaside arrowgrass

See Part 2: Poisonous Plants

arrowhead (tube potato; *Sagittaria sagittifolia*) A water plant with starchy edible roots that can be used as a vegetable or powdered like arrowroot

arrowroot (*Maranta arundinacea*) A perennial that produces starchy rhizomes (1 ft long by $\frac{3}{4}$ in. diam.); the rhizomes are white and covered with large paper white scales; a very digestible starch is made from these tubers; refined starch from the tubers of this plant is also referred to as arrowroot as well as tapioca and farina. The rhizomes must be peeled carefully because the rind contains a bitter drug. The roots are crushed or rasped and the starch is washed out. The name comes from the Indian practice of treating arrow wounds with the root. The finely powdered starch is used to prepare blancmange, custards, and puddings

Composition: protein 0.4%; fat 0.1%; carbohydrate 94%

arrowroot flour Flour produced from the rhizome of a tropical perennial herb

1.25 tsp arrowroot = 1 tbsp wheat flour for thickening

See also arrowroot

arrowroot powder A powder produced from the rhizome of a tropical perennial herb. *See also* arrowroot

arrowroot starch A starch obtained from roots of a West Indian tropical plant and used as a thickening agent in cooking. *See also* arrowroot

arrowtooth flounder (arrowtoothed halibut; *Atheresthes stomias*) A white-meat finfish with a light to moderate flavor

arroz Rice

arroz fermentado A cooked staple of fermented rice
Arroz amarillo (yellow)
Arroz requemado (brown)

ARS *See* Agricultural Research Service

arsanilic acid Used in swine to promote growth and to improve feed efficiency; used in poultry to promote growth and to improve feed efficiency, feathering, and egg production

arsenic (As) A nonmetallic element; at. no. 33; at. wt. 74.92; Group VA of the Periodic Table; oxidation states +3, +5, -3;
electron configuration 2-8-18-5
orbit K L M N
Toxic and possibly carcinogenic
See Part 2: Minerals (Trace), Limits; Water Drinking Standards

arsine (AsH₃) A highly toxic gas derived from arsenic

artefact *See* artifact

arteriosclerosis Thickening of arteries and loss of contractibility and elasticity

artery Vessel that carries blood from the heart

artery curve Pumping the curing pickle into a ham through the femoral artery and allowing the blood vessels to distribute the cure to the ham

arthritis Inflammation of a joint

artichoke (French; globe; true; *Cynara scolymus*)
A deep-rooted, 3- to 5-ft perennial, thistle-like plant, belonging to the daisy or thistle family; grows well in a cold, moist climate; the flower heads (green to purplish; small to 5-in. diam.) and "chokes," or unopened, tightly clinging fleshy petals, have scales with fleshy bases. 650 seed/oz; thin to 2-3 ft apart in rows 3-4 ft apart. In season Nov.-May; harvest when buds are compact and refrigerate as soon as picked.

Size		Use
Small		Pickling, stews, casseroles
Medium		Salads
Large		Stuffing

Type	Where grown	Varieties
Conical bud	Europe	French or green French Thistle or prickly Violet
Globular head	U.S. and Europe	Giant bud Green or white globe Red Dutch Violet bud

Other varieties	Commercial growth area	Cooking
Creole	Southern Louisiana	
Grande Beurre		Boiled and served with melted butter
Green Globe	California Gulf Coast	Most popular
Gros Vert de Laon		
Purple Globe		

The fleshy base of the scales is eaten raw, baked, fried, stuffed, served with sauces, or preserved in oil; the base of the flower head and the central leaf stalk are also eaten.

Canned and frozen styles:

Whole (one per can)

Topped

Hearts (packed in brine, vinegar, sauces, or olive oil)

Bottoms

Cooking; trim ("choke," or scaly part discarded), boil 30-50 min or until tender in acidulated water

1 large artichoke cooked and drained = 15 oz

1 artichoke heart = 15 g

1 serving = $\frac{1}{2}$ lb

= 1 med. artichoke

Composition: moisture 86%; protein 3%; fiber 11%; ash 0.8%; pH 5.6

Store at 31-32°F, at 60-95% relative humidity; use in 1-2 weeks.

See Chinese artichoke; Jerusalem artichoke; other artichoke entries

See Part 2: Iron; Minerals, Food; Niacin; Phosphorus; Potassium; Potassium-Rich Foods; Vegetable Composition; Vegetable Plants; Vegetables, Canning Dates

artichoke heart The tender, inner part of the artichoke

Types available:

Canned

Whole (served like fresh vegetables)

In vinegar or sauces (hors d'oeuvres)

Frozen

artichoke, Japanese or Chinese (chorogi; knot-root) A perennial plant grown for its small, edible root or tubers

artichoke noodle A noodle made from the flour from the tuber of the Jerusalem artichoke (which is not an artichoke)

articulation A juncture of movable segments of a body; joint

artifact A tissue structure that has been changed by artificial means

artificial color Usually made from coal tar (coal is heated in a vacuum) and used in the range of 10-500 ppm

artificial feeding Young receiving milk from another species; infant being fed with milk other than human

artificial flavoring Any substance that is added to impart flavor and is not derived from a spice, fruit (or juice), vegetable (or juice), yeast, herb, plant material

42 artificial flavoring

(i.e., bark, bud, root, leaf, etc.), meat, seafood, poultry, eggs, dairy product, or fermentation product

artificial insemination The introduction of spermatozoa into the vagina or uterus by instrumental rather than natural means

artificially dried Dried by other than nature means

arva See **ava**; **kava**

aryl group An aromatic group such as C_6H_5 , C_6H_4 , etc. representing a benzene nucleus minus one, two or more hydrogen atoms which are replaced by various groups or side chains. Often represented in formulas by R.

As Symbol for the element arsenic

asadero A provolone-type cheese made from cow's milk

asado Skewered meat roasted before an open fire; a roast

asafoetida (asafoetida) A semisolid plant gum obtained from the root of the genus *Ferula*; it has a bitter taste and a distinctive odor.

See Part 2: Essential Oils

asali A liquor made by fermentation of honey

ASAP As soon as possible

A-1 Sauce A semiliquid, highly spiced, strong meat sauce made with vinegar, onions, and spices

Composition: 275 mg Na/tbsp (17 g)

asbach Grape brandy aged in Limousin oak cask

asbestos Magnesium silicate ($Mg_3Si_2O_7 \cdot 2H_2O$). There are two major types, serpentine (chrysotile) and amphibole. Both are extremely fibrous and are completely noncombustible. Asbestos fiber is a carcinogen when inhaled.

See Part 2: Insulation

Ascaris suis Round intestinal worms that are parasites in hogs

ASCII (American Standard Code for Information Interchange) Character code used for representing information in most non-IBM equipment

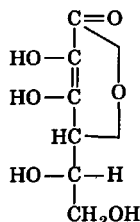
ascites Accumulation of fluid in the abdominal cavity

asciutto Dry wine

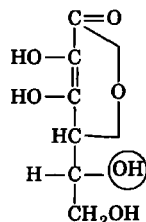
asclepian A protease enzyme found in the juice of the milkweed

ascorbate A salt of ascorbic acid See **ascorbic acid**

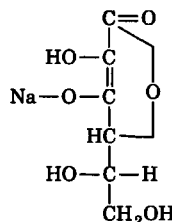
ascorbic acid (vitamin C) ($C_6H_8O_6$)



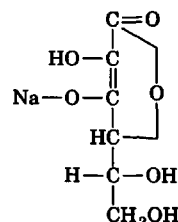
ascorbic acid



isoascorbic
(erythorbic)
acid



sodium ascorbate



sodium isoascorbate
(sodium erythorbate)

A water-soluble vitamin whose deficiency causes a disease known as scurvy; body does not store.

1 IU vitamin C = 0.05 mg ascorbic acid

20 IU vitamin C = 1 mg ascorbic acid

Deficiency symptoms: bleeding gums, sore joints

Used as a food additive in beverages, meats, beverage mixes, fruit products, acidic foods, baked goods, and processed fruit to improve or maintain nutritional quality or as a preservative or an antioxidant (reducing agents). It keeps uncooked peaches from turning brown (oxidation of catechol and tannin) and frozen foods from darkening [150 mg/lb of finished pack or $\frac{1}{2}$ tsp (1000 mg)/4 cups of cold syrup].

Comparable antioxidant activity:

1 part erythorbic acid = 1 part ascorbic acid

1.09 parts sodium erythorbate

= 1 part sodium ascorbate

(sodium erythorbate contains 1 mole water of hydration)

1 part of erythorbic acid = 1.23 parts sodium erythorbate

Its antioxidant properties are utilized in frozen and canned fruit, beer and ale, wines, carbonated beverages, frozen fish, potatoes (peeled), salads, and cole slaw.

Sources: citrus fruits, tomatoes, strawberries, peas, raw green leaves (cabbage, lettuce), carrots, apples, potatoes, liver, brussels sprouts, broccoli, sweet red and green peppers, and cantaloupe

Body function: function of connective tissue, resistance to infection, elimination of potential toxins See **vitamin C**

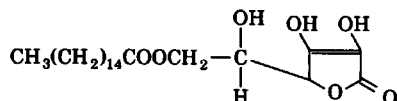
It can be used in cured meat to speed up color reaction. $\frac{3}{4}$ oz ascorbic or isoascorbic acid per 100 lb meat; 0.875 oz sodium ascorbate or sodium isoascorbate per 100 lb meat; 75 oz ascorbic or isoascorbic acid per 100 gal pickle (10% pump); 87.5 oz sodium ascorbate or sodium isoascorbate per 100 gal pickle (10% pump); 10% spray solution may be applied to outer surface.

Storage: tight, light-resistant container; air and heat speed up destruction

See Part 2: Ascorbic Acid; Ascorbic Acid, Food; Ascorbic Acid, Fruit Juices; Beans, Peas, and Nuts; Cereal Fortification; Cereals, Vitamin and Mineral Content; Composition of Food; Dairy Products, Composition; Egg Composition; Fats and Oils, Composition; Fish and Shellfish, Composition; Fruit and Vegetables, Composition; Fruit Composition; Grain Products, Composition; Lemon Juice Composition; Lime Juice Composition; Meat Composition; Meat Pigment; Milk

and Milk Products, Vitamin Content; Milk Composition; Olives and Pickles, Composition; Plant Foods, Composition; Poultry Composition; Recommended Daily Dietary Allowance; Sausage Composition; Soups, Composition; Sugars and Sweetens, Composition; Tomato and Tomato Products, Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Vitamins; Vitamin Sources, Functions, and Stability

ascorbyl palmitate (palmitoyl L-ascorbic acid)



Used in food as an antioxidant

Storage: tight container in a cool, dry place

ASCS See **Agricultural Stabilization and Conservation Service**

-ase Suffix used in naming certain enzymes, e.g., zymase, diastase

aseeda A thin, flat bread made from sorghum

asem See **tamarind**

asepsis Prevention of the presence of microorganisms See **aseptic**

aseptic (asepsis) The exclusion of putrefying bacteria and the use of sterilized equipment and environment

aseptic processing A presterilized container is filled with a commercially sterilized cooled product and hermetically sealed in an environment free of microorganisms

as-fed Feed as consumed

ash 1) The solids remaining after the complete combustion of a material; mineral residue; residue of inorganic material after incineration (cleanliness of pure spices can be determined by ash analysis)

See Part 2: Bananas, Composition; Cherry Composition; Concentrated and Dried Milk Products; Connective Tissue, Composition; Corn Kernel Composition; Creams, Butter, and Frozen Desserts; Cultured Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fluid and Fermented Milks, Composition; Fruit Composition; Grain Analysis; Honey Composition; Lime Juice Composition; Manure Analysis; Maple Syrup Composition; Milk and Cheese Composition; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Products; Milk, Dry Products; Milk, Mammals, Composition; Milk, Species; Oil Meals Composition; Oils and Fats, Composition; Packinghouse By-Products Composition; Plant Foods, Composition; Pulses, Nuts, and Seeds, Composition; Seed, Chemical Composition; Seed Composition; Soybean Composition; Starchy Roots, Composition; Sugars and Syrups, Composition; Sweetening Agents; Tomato and Tomato Products, Composition; Turkey Composition; Wastes, Agricultural and Industrial; Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat, Parts of Grain; Wheat Products Composition

2) A tree that is excellent for use as firewood (24 ×

10⁶ BTU/cord, 20% moisture) and easy to split; fire is difficult to start and produces light smoke, good coals, and few sparks

ash analysis A value determined by incinerating a sample material at high temp (525°C) for 16–18 hr

ashanku Baked chindanda made with maize and plantain

ash bread Corn bread

ash gourd See **gourd**

asiago A low-fat, mild, light-yellow, cylindrical, and smokey after-dinner cheese originally made from sheep's milk, now made from cows' milk (2–6 months ripening); longer ripening (min. 12 months) produces a hard, sharp cheese used for grating

asinan 1) Pickled vegetables. 2) Pickled fruit

as / is Indicates that goods are offered for sale without warranty or guarantee. The purchaser has no recourse on the vendor for quality.

asitia Dislike of food

ASME American Society of Mechanical Engineers

asparagi alla parmigiana Asparagus cooked with butter and parmesan cheese

asparagine A derivative of aspartic acid See also **aspartic acid**

See Part 2: Amino Acids

asparagus (*Asparagus officinalis*) This cool-weather, long-lasting (harvested for eight weeks; in market from late winter to midsummer), early-appearing, perennial dioecious plant (originally from the Mediterranean and Middle East) is a member of the lily family; the round, compact, brittle, straight, young white shoot, or "spear" (green or purple-tipped), is cooked in water and served with butter or sauce and can be frozen and canned. Plant (1600 seed/oz) 12–24 in. apart in rows 4–5 ft apart; germination period 23–35 days. If covered with soil, the plant will develop underground, which will blanch (or whiten) the stems (milder and often canned), but green asparagus is more tender, better flavored, and more nutritious and is often canned or frozen. Harvest by cutting just below the ground when the spears are 4–10 in. long just before tips begin to open (open tips are a sign of overmaturity); most flavorful when young and fresh. Refrigerate when cut to preserve the sugar level. A color preservative sometimes is added (stannous chloride).

Male plants yield heavier spears.

Female plants yield larger-diameter spears.

To cook: whole or sliced asparagus is boiled or steamed 4–15 min or until tender.

Available forms:

All white (covered to protect from light, or special varieties)

Center cut

Tips and spears

Canned (in salt brine: regular, dietetic, green, white spears and liquid)

All green (grown above ground)

Center cuts (contains no tips)

Cuts and tips

44 asparagus (*Asparagus officinalis*)

canned (Continued)

Spears ($5\frac{7}{8}$ in.)

Tips (uniform length; $3\frac{1}{8}$ or $3\frac{5}{8}$ in.)

Fresh

Frozen

Natural (green tips, lower spear greenish or white)

Cuts and tips

Tips and spears

Solid tips or points ($1-2\frac{1}{2}$ in.)

Soup cuts or cut

Canned tip and spear sizes:

Small

Medium

Large

Mammoth

Colossal

Giant

Fresh sizes:

Pencil—less than $\frac{3}{8}$ in. diam.

Medium— $\frac{3}{8}-\frac{5}{8}$ in.

Jumbo— $\frac{5}{8}-\frac{7}{8}$ in.

Colossal— $\frac{7}{8}$ in. and up

Refuse: 25% butt ends

12 spears per bunch

1 bunch = 3.5 lb

1 bu = 40–50 lb

1 bu, fresh = 9–14 qt, canned

1 crate = 30 lb

1 crate, fresh = 12 bunches, 2 lb each

= 15–22 pt frozen

1 qt, canned = $2\frac{1}{2}$ –6 lb, fresh

1 qt, frozen = $2-2\frac{1}{2}$ lb, fresh

1 lb, fresh = 2–4 servings

= 16–20 spears

= 2 cups, cooked

1 pt, frozen = 1–1.5 lb, fresh

10 oz, frozen = 2–3 servings

1 cup, canned = 7.8–8.6 oz

1 cup, cooked = 180 g (6.4 oz)

1 serving = 0.25–0.5 lb

1 part freeze-dried weight = 20 parts fresh weight

Composition (fresh): moisture 92%; protein 3%; fat 0.2%; carbohydrate 5%; ash 0.6%; pH 5.4–6.1

Storage: Do not wash before storage; keep in refrigerator crisper or plastic bag to keep humid (90–95% relative humidity); use in 2–3 days.

See Part 2: Ascorbic Acid; Asparagus Terms; Calories, Daily Recommendations; Canned Spoilage Related to pH; Frozen Food Storage; Fruit and Vegetables,

Composition; Iron; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Minerals, Food; Niacin, Nicotinic Acid, Food; Phosphorus; Plant Foods, Composition; Planting Density; Portion Size; Riboflavin; Riboflavin, Daily Recommendations; Riboflavin, Food; Soups, Composition; Storage; Sugar, Vegetables; Thiamin; Tocopherols; Transit Temperature; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Storage; Vegetable Yields; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vitamin A; Vitamin A, Daily Recommendations; Vitamin C; Wastes, Agricultural and Industrial

asparagus bean (dow guak; yardlong bean; *Vigna sesquipedalis*) An oriental vine pea that produces a 2- to 3-foot-long pod with a seed approximately every inch; does not produce a large yield and is grown more as a curiosity. The edible pod tastes like asparagus.

asparagus beetle (*Crioceris*) A pest that lays its eggs in June on growing plants (e.g., asparagus shoots); these develop into small dark green worms or grubs that feed on foliage and burrow into the soil. They develop into beetles that look like slender ladybird beetles.

asparagus broccoli See **broccoli**

asparagus, bush A West African plant that produces shoots that are used like asparagus and leaves that are boiled and mixed with rice

asparagus, cream of, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	4.8	93.9
Protein (%)	13.7	0.9
Fat (%)	10.8	0.7
Carbohydrate (%)	55.7	3.6
Fiber (%)	0.8	0.05
Ash (%)	14.9	1.0

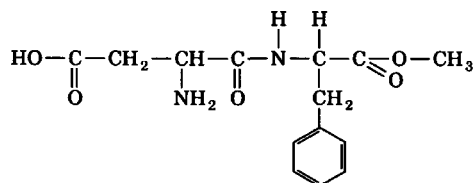
Variety	Stalk	Flavor	Rust resistance	Use
Brocks Imperial	Long	Good	Moderate	
California				
Martha Washington				
Mary Washington	Large, thick, heavy, med. green, rust-resistant, standard	Good, mild	High	Fresh, canning, freezing
Paradise	Large	Mild	High	
Viking				
Waltham Washington	Green, thick, heavy, rust-resistant	Good	High	Fresh, canning, freezing

asparagus, cream of, soup, canned

Composition	Condensed	Condensed	
		Prepared with milk	Prepared with water
Moisture (%)	84.1	86.0	91.8
Protein (%)	1.8	2.5	0.9
Fat (%)	3.3	3.3	1.7
Carbohydrate (%)	8.5	6.6	4.4
Fiber (%)	0.6	0.3	0.3
Ash (%)	2.3	1.5	1.2

asparagus pea (catjang; winged pea; yardlong bean; *Lotus tetragonolobus purpureus*) 1) Young pea pods used as human food. 2) A plant that produces an asparagus-flavored pod that is cooked whole (not a normal garden pea)

aspartame An approved (FDA, 1981) low-calorie, synthetic, nonsugar sweetener [relative sweetness of 20,000–30,000 (sucrose = 100)], with a caloric value of 4 calorie/g but sweeter than sugar and with no bitter aftertaste. It is the methyl ester of aspartyl phenylalanine, a dipeptide of two natural amino acids (L-aspartic acid and ethyl ester of L-phenylalanine).



1 tsp sugar = 18 calories

Equivalent sweetness of aspartame = $\frac{1}{10}$ calorie

1 tablet = 1 tsp sugar

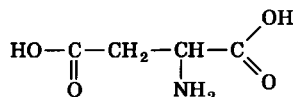
= 0.25 calorie

1 packet = 2 tsp sugar

= 4 calories

It does not contribute texture to baked products and loses its sweetening power at high cooking temperatures.

aspartic acid A nonessential monoamino-dicarboxylic amino acid



Used as a nutrient or dietary supplement in food

Storage: tight, light-resistant container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

Aspergillus A common mold

See Part 2: Mold, Food; Molds, Mycotoxins; Rot Spoilage; Spoilage, Fat in Foods

aspergillus black-mold rot (erroneously called smut) Black-mold rot caused by the fungus *As-*

pergillus niger; it affects figs, citrus fruit, onions, pomegranates, and grapes. In figs the disease first appears as pink color of skin and pulp and there is a cheesy consistency of the pulp. There is often little external indication of the disease. Refrigeration (31°F) will delay the decay.

***Aspergillus flavusoryzae* group** A group of proteolytic enzymes used to soften beef tissue

Aspergillus oryzae A proteolytic enzyme used to soften beef tissue

aspergillus rot Decay on fruit held at high temperatures caused by *Aspergillus niger* (oranges) and *Geotrichum candidum* (lemons)

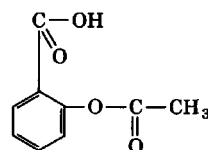
asphalt A complex mixture of bitumens obtained from midcontinental and western petroleum; occurs naturally in Trinidad

See Part 2: Insulation

aspic Jellied (gelatin) broth used for molding or to give a shiny finish to a variety of foods; a spicy, tart jelly made from brown (meat) or white (fish) stock and may be thickened with gelatin; sold in powdered form

aspirate To remove liquids by suction; to draw in; to remove light material using air

aspirin (acetylsalicylic acid)



A common anodyne that often causes bleeding, especially from the gums

as purchased As ordinarily obtained from a typical retail store

See Part 2: Fruit Composition

assaisonnement Seasoning

Assam A province of northeastern India that produces a strong, rich, heavy tea See **black tea; tamarind**

assassin bug A light-brown, long-legged, $\frac{1}{2}$ - to $\frac{3}{4}$ -in.-long insect that walks over plants slowly and clumsily and holds its forelegs in a prayerlike position and uses them to capture and hold its prey

Benefit: feeds on immature forms of insects

assay Determination of potency or purity

assets Cash and property that have a market value

assignable cause Variation in a product that can be determined and corrected (as opposed to chance variation)

assimilation Incorporation and conversion of absorbed nutrients (food) into substances of the body (living tissue); the manufacture of protoplasm

assmannshausen A red Rhine table wine

ASTA American Spice Trade Association See **paprika**

astatine (At) A halogen element; Group VIIA of the Periodic Table; at. no. 85; mass number of most

46 astatine (At)

stable isotope 210;

electron configuration 2-8-18-32-18-7

orbit K L M N O P

aster leafhopper (*Macrosteles fascifrons*) An insect that is $\frac{5}{32}$ -in. long

Host: cereal, forage, and vegetable crops

asternal rib See false rib; rib

aster yellows A virus disease of strawberries in which early symptoms are yellowing, dwarfing, and cupping of young leaves. It may be prevented by planting virus-free stock and using insecticides

asthenia Weak, without energy

asti spumante A white, scented, sweet, aromatic, sparkling, Italian (Piedmont, north and west Italy) wine made from Muscat grapes

ASTM American Society of Testing Materials

astrakhan fur The fur of fat-tailed sheep

astrigent A dry, shrinking, drawing, puckering, sensation of the mouth; contraction of muscles or tissue, especially in the mouth

astronomical unit (AU) A measure of distance

1 AU = 1.495×10^8 kilometers (km)

asymmetric carbon atom A carbon atom to which four different atoms or groups of atoms are attached; a compound containing one such atom displays optical rotation.

At Symbol for the element astatine

ataif (katayef) An often multilayered pancake dipped in syrup and sometimes eaten with pistachios and thick cream

atap A thick porridge gruel made from sorghum or millet

-ate Suffix indicating a salt whose metal is in the highest oxidation state

atemoya (*Annona cherimola* \times *A. squamosa*) A moderate-sized subtropical tree or its edible fruit; a hybrid of the cherimoya and the sugar apple

Varieties:

Bradley

Kaller (African Pride)

atherosclerosis A type of arteriosclerosis in which there are deposits of cholesterol and other lipids

Atholl brose A thick whiskey liqueur with oatmeal, honey, and cream

athrepsia Malnutrition, often in children

Atka mackerel (*Pleurogrammus azonus*, synonym *P. monopterygius*) A food fish

Atlantic herring See sea herring

Atlantic mackerel A finfish with light meat and a pronounced flavor

Atlantic ocean perch A finfish with light meat and a light to moderate flavor

Atlantic salmon A finfish with light meat and a light to moderate flavor

Atlantic wolffish (catfish; *Anarhichas lupus*) A food fish

atlas First cervical vertebra (neck bone), which attaches to the head

See Part 2: Beef Chuck; Beef Wholesale Cuts; Bone; Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

atmosphere (atm; standard, 760 mm) A measure of pressure; at atmospheric pressure, there are 2.7×10^{19} molecules per cubic centimeter.

1 atm (standard)

= 10,333 kilograms per square meter (kg/m²)

= 1,013,250 dynes per square centimeter (dyn/cm²)

= 2,116.35 pounds per square foot (psf)

= 760 millimeters of mercury (mm Hg) [column of mercury (Hg), 13.59593 sp. gr. at 0°C and under standard acceleration of gravity]

= 76 centimeters of mercury (cm Hg; at 0°C)

= 33.9006 ft (column of water, max. density at 4°C, 39°F)

= 29.9212 inch [in.; column of mercury (Hg), 13.59593 sp. gr.]

= 14.6969 pounds per square inch (psi)

= 10.3329 m (column of water, max. density at 4°C, 39°F)

= 1.058 tons per square foot (ton/ft²)

= 1.03329 kilogram per square centimeter (kg/cm²)

= 0.76 meters of mercury (m Hg; at 0°C)

= 0.007348 ton per square inch (ton/in.²)

atole A weak alcoholic beverage made from malted maize and hot peppers

atom The smallest particle of an element that exhibits the properties of that element

atomic number The number of protons in an atomic nucleus, ranging from 1 for hydrogen to 106 for the most recently discovered element. This number indicates the position of an element in the periodic table and determines its chemical properties and behavior

atomic weight The mass (weight) of an atom of an element, obtained by averaging the mass of all its isotopes, in relation to the mass of carbon-12 isotope (exactly 12.00), which is now the official standard

atony Loss of strength

ATP See adenosine triphosphate

atrazine [2-chloro-4-(ethylamino)-6-(isopropylamino)-5-triazine] An herbicide

See Part 2: Corn Herbicides

atrioventricular node Area of the heart that receives the impulse after the auricles have contracted and passes it on by the "bundle of His" to the ventricles

atrium See auricle

atrophy Wasting away; diminishing in size

atshomo A doughnut made from wheat flour

ATS medium (American Trudeau Society) Microbiological medium for the determination of tubercle bacilli

See Part 2: Microorganism, Media

atsumandie (bakhar, murcha) Gray-white, dried balls of starter containing bacteria, molds, and yeast

on a starch or cereal base; used as an inoculum for sake

atta pancake A whole-meal, wheat-flour pancake, often with coconut and cumin

attar of roses See **rose Bulgarian**

attelet Small skewer

at-the-money When the option strike price is at the underlying futures contract price

atto (10^{-18}) Prefix for quantities one quintillionth (= 0.000 000 000 000 000 001) smaller than the base unit

attribute In inspection, an attribute will classify an item as either defective (e.g., broken glass in a food sample) or nondefective

atzmon A creamy, semisoft, mild-flavored, cheese made from cow's milk and surface-bacteria ripened

A.U. Old abbreviation for angstrom

Au Symbol for the element gold (from Latin *aurum*)

au With; in

aubergine Eggplant See **eggplant**

au beurre Cooked with or in butter; sautéed

au brun Cooked in brown sauce

auction Type of sale in which the highest bid purchases the object for sale

au fait Brick ice cream with layers of frozen fruit

au four Bake; baked in an oven

aufschnitt A moist, cooked, smoked or unsmoked, mildly seasoned Swiss sausage made from fine-, medium-, or coarse-chopped beef, pork, and veal either stuffed into a beef or an artificial casing or not stuffed into a casing; meat or sausage thinly sliced

au gras Cooked in broth or gravy or covered with gravy or sauce

au gratin 1) Covered with cheese and/or crumbs or a rich sauce or with bread crumbs and cooked (browned in an oven or broiler) or browned. 2) A casserole with cream sauce, stock, or milk and buttered bread crumbs, browned in an oven

augsburger A moist, cooked, smoked or unsmoked, mildly seasoned (with no nitrite or nitrate) Austrian sausage made from finely chopped beef and pork stuffed into a beef casing that has a diameter greater than 30 mm

au jus With natural juice

au jus, gravy

Composition	Dehydrated	Prepared with water
Moisture (%)	2.4	97.7
Protein (%)	12.4	0.3
Fat (%)	14.0	0.3
Carbohydrate (%)	41.6	1.0
Fiber (%)	0.2	0.01
Ash (%)	29.6	0.7

au jus, gravy, canned Composition (canned): protein 1.2%; fat 0.2%; carbohydrate 2.5%

au lait with milk

au maigre Without meat

au naturel 1) Food or drink prepared simply, plain, or raw. 2) Canned fish prepared by cooking in its own juice. 3) Canned fish in a light brine and sometimes vinegar

aura A blue cheese made from cow's milk

Aureomycin An antibiotic See also **chlortetracycline**

aureomycin rose Microbiological media used for the detection of yeast and mold

See Part 2: Microbiological Examination of Dairy Products

aureus A species of *Staphylococcus* microorganism found in dairy products and water

See Part 2: Water Activity, Organisms and Food

auricle The upper chambers of the heart, called right and left auricle

aurore sauce A white sauce

au rouge With red sauce

aurum A golden, aromatic, Italian liqueur made from orange peel and brandy

auslese Noble wines made from the ripest bunches of grapes, which are late-gathered and specially selected for ripeness

austere Undeveloped wine that will become full-bodied

Australian lettuce Curly head lettuce that resembles chicory

Australian native plum (black apple; bush apple; rose apple; wild plum; *Syzygium australe*) Large plum-shaped fruit

Australorp An English class of chickens with black plumage and white skin and lays a brown-shelled egg

See Part 2: Poultry Breeds and Varieties

Austrian smoked cheese A smoked processed cheese made from cow's milk.

auto- Prefix meaning self

autocatalytic reaction A self-propagating reaction

autoclave (pressure cooker) A container for sterilizing by steam under pressure

Pressure	Boiling point of water
Atmospheric	100°C (212°F)
Atmospheric + 10 lb	115°C (239°F)
Atmospheric + 15 lb	121°C (250°F)
Atmospheric + 20 lb	126°C (259°F)

See **pressure cooker**

autolysis Digestion of cell material by cellular enzymes; breakdown (by natural enzymes) of tissue after death

autolyze To undergo autolysis (self-digestion of plant or animal tissue)

automatic Self-acting; involuntary

auto-oxidation Self-perpetuating or self-catalyzed (no enzyme needed after it gets started) chemical reactions that cause oxidative rancidity

48 autosmia

autosmia Disorder of the sense of smell causing odors to be perceived when none are present

autotroph Bacteria that use CO₂ as the sole source of carbon; organisms that are self-feeders or obtain their energy from the sun (light); carbon source is generally CO₂

autotrophic organism An organism capable of converting inorganic matter to organic matter

autumn See **Frost Date, Autumn**

autun A soft, white cheese made with goat's milk or goat's mixed with cow's milk

auvergne See **cantal**

au vert With green sauce

aux- Prefix meaning increase or growth

ava (arva; kava; yava) An alcoholic beverage made by fermenting the roots of the pepper plant See **kava**

available chlorine The amount of active chlorine that a compound can release in water

available nutrient A nutrient in the form that can be totally absorbed by the body from the digestive tract; a nutrient that can be digested, absorbed, and used in the body

avdp. Avoirdupois weight

avenin See **ligumin**

average The arithmetic mean

average amount of inspection Average number of items inspected per inspection lot for a particular sampling plan

average daily gain (ADG) Average increase in live weight per day

average error A method of expressing error for a single observation and an average of a series of measurements. Average error for a *single* determination (a):

$$a = \frac{\pm \Sigma V}{n}$$

ΣV = sum of deviation from the average regardless of sign

n = number of observations

Average error for an *averaged* value for n observations (A):

$$A = \pm \frac{\Sigma V}{n\sqrt{n}}$$

average error 0.8453 = probable error

average error 1.2532 = mean square error

avers A valençay-type cheese made from goat's milk

aversion Dislike, repugnance, and avoidance of a stimulus

avgolemeono sauce An egg-lemon sauce

avidin A toxic principle (antivitamin), occurring in egg white, that is inactivated by heat; it is a protein that combines with biotin, thus inactivating it; however, it loses this ability on heating; also, it inactivates biotin and makes it unavailable to animals.

avocado (aguacate; alligator pear; calavo; Persea americana) A tropical American fruit (originally from Central and South America). A medium-sized tree that produces a fruit about the size and shape of a pear (some are almost spherical or oval), with rough or smooth skin, which may be green, yellow, maroon, or brown-green, brown, or purplish black when ripe; weight from 4 oz to 3 lb; the flesh, which may be eaten raw, used as a vegetable or fruit, or spread like butter, surrounds a single stone.

Types:

Summer—dark, rough (pebbly) texture

Winter—thin green skin

High in protein, vitamin B, and vitamin A (290 IU/100 g); ascorbic acid, 16 mg/100 g

1 avocado = 1 lb

1 cup, diced = 5.2 oz

1 cup, mashed = 8.2 oz

1 serving = 0.25–0.5 avocado

1 lug (4.5 × 12.5 × 16.1 in.) = 12–15 lb

1 lb = 2½ cups, sliced

1 cup = 140 g (5 oz)

Must be picked green and ripened at room temperature. Place in lemon or lime juice dip, which will keep peeled flesh from turning dark.

To ripen: keep in open air at room temperature, out of sunlight

Storage: Fruit is easily bruised; storage in paper bag in the dark at room temperature accelerates ripening. When ripe, store in refrigerator (45–55°F) at 85–90% relative humidity; use in 3–10 days. See **anthracnose; rhizopus rot**

Varieties	Size (in.)	Peeled & pitted wt (oz)	Moisture (%)	Protein (%)	Fat (%)*	Carbohydrate (%)	Ash (%)
California	3½ × 4¼	10	74	2.2	17	6	1
Florida	3 × 4	12	78	1.3	11	9	1

*Some varieties up to 30%

See Part 2: Calories, Daily Recommendations; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Storage; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Storage; Transit Temperature

avocado chilling injury Critical temperature (36–55°F) varies with variety, maturity, season, and storage time. Injury is characterized by a gray-brown discoloration of the flesh, abnormal ripening, undesirable flavors, pitting, and/or darkening of the skin

avocado flesh darkening Dark flesh may be caused by the following:

- Chilling
- Freezing
- Heating
- Overripe
- Season
- Seed growth
- Variety

avocado heat injury Temperatures as low as 77–80°F often cause abnormal softening (uneven or rubbery), darkening of color, often a scaldlike discoloration and off flavor

avocado oil A semidrying oil separated from the pulp of the avocado; 70–95 iodine number

avocado scab The disease appears as raised, circular-to-oval, dark-brown to purple corky spots that may be scattered or coalesce to give a russeted appearance. It is confined to the outer surface and does not impair the eating quality of the fruit but other fungi may gain entrance through the blemishes. It is caused by *Sphaceloma perseae* and will not develop or spread during transit or storage

avocado stem end rot Decay begins at the stem end and proceeds toward the blossom end, causing an external discoloration. The fungi most commonly associated with it are *Diplodia natalensis* P. Evans, and *Phomopsis* and *Dothiorella* spp.

Avogadro's number (N) The number of material units (molecules, atoms, ions, electrons, etc.) present in 1 mole of substance, namely, 6.023×10^{23} See also mole

See Part 2: Constants, Fundamental

avoirdupois (avdp) A system of U.S. and British weights

avzoman A moist or dry, cooked Iranian sausage made from finely chopped beef, lamb, and goat, stuffed into beef, sheep, or artificial casings

a_w See water activity

awabi See abalone

awamori A sweet-potato based arrack

awarra palm See palm

awein A spirit distilled from kefir

awn A small, pointed projection (i.e., beard on grain)

awshari Dried, hard spheres of fermented sheep's and sometimes goat's milk or milk curds

awule bolo Baked or steamed fermented rice balls

axerophthol Vitamin A

axial Relating to the axis of a structure

axil Point of attachment of leaf to stem

axillary The angle between stem and leafstalk; the armpit

See Part 2: Lymph Nodes, Ox

aya See chufa

ayler A white wine from the Saar Valley

Aylesbury A popular, English, meat-type duck with white feathers, white skin, flesh-colored bills, and light-orange legs and feet

ayran See airan

Ayrshire A breed of dairy cattle that originated in Scotland; they are white with patches of red to brown. See Part 2: Dairy Cattle Breeds; Gestation Periods; Milk Breeds, Composition; Milk Composition

ayu (Plecoglossus altivelis) A Japanese food fish

azarole (Neapolitan medlar; Crataegus azarolus) The oval, yellow-red, sweet, acid berry of a specific Mediterranean hawthorn tree (some hawthorn fruit is not edible) used as fruit, jam, and flavoring (apple-like)

azeitao A soft Portuguese cheese made from goat's milk

azeotrope A mixture of two or more liquids that distills at a constant temperature and has a constant composition

See Part 2: Refrigerant

azide blood agar Microbiological selective medium used for the isolation of streptococci; sodium azide inhibits gram-negative organisms.

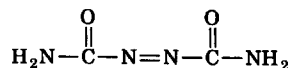
See Part 2: Microbiological Media

azide dextrose broth Microbiological broth used for quantitative determination of streptococci; other organisms that will also grow in this broth include gram-positive bacilli, coliforms, and enterococci.

See Part 2: Microbiological Media; Microorganism, Culture Media, Water and Sewage, Standard Methods

azitao A golden, hard, pressed cheese made from sheep's milk, with a mild maturation of approximately 1 month

azodicarbonamide



Used as a maturing and bleaching agent for food or flour and as a dough conditioner

Storage: tight, light-resistant container

aztec marigold See tagetes

B

B See **boron**

Ba Symbol for the element barium

baba A yeast cake flavored with rum or fruit

babassu A nut from the babassu palm native to Brazil, from which oil is obtained by pressing

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Melting Points, Fats and Oils; Oil or Fat, Characteristics; Saturated Fatty Acids; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Unsaponifiable Matter

Babcock test A fat test for milk, developed in 1890 by S. M. Babcock

babe A small (50–60 g), doughnut-shaped, open-textured sponge cake made from wheat flour, containing currants and orange peel

babek Coarse-chopped, pork chorizo

babooky Tea bread

baboy Pork

baby beef Young cattle (between 12 and 18 months) that have been well fed, often weighing less than 700 lb and often milk- and grass-fed; (the meat is tender and cuts are smaller, light red in color, and with less fat than mature beef)

baby bel An edam-type cheese

baby food See **infant food**; **strained food**

baby food with meat A fine- to medium-chopped, cooked, unsmoked, American sausage that is canned sterile or shelf-stable

baby-keet Guinea chicks

baby Swiss See **Swiss**, **baby**

bacalao Cod (sometimes other species) that are dried and salted

bacardi 1) A type of light rum. 2) An alcoholic beverage made with $\frac{1}{2}$ lime or lemon juice, $\frac{1}{2}$ tsp sugar, 1 tsp grenadine, $1\frac{1}{2}$ oz (1 jigger) light rum, shaken with ice and strained

baccharis A plant with a fragrant root; a genus of American plants of the thistle family
See Part 2: Poisonous Plants

bacco An alcoholic, sugar-cane juice wine, usually consumed fresh

Bacillaceae A family of small rod- or coccoid-shaped, aerobic or obligate anaerobic, usually gram-positive microorganisms found in soil and animals; a few produce disease.

See Part 2: Water Activity, Organisms and Food

bacilli (plural of bacillus) A subdivision of bacteria whose shape resembles a rod (Latin, stick); they are

gram-positive, spore-forming, and survive pasteurization.

See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH; Rot Spoilage; Spoilage, Carbohydrate Foods; Spoilage, Protein Foods; Thermophiles

Bacillus botulinus Anaerobic bacteria that produce a toxin that causes food poisoning known as botulism

Bacillus cereus Facultative bacteria found in soil and water that may utilize bound oxygen to cause spoilage in canned foods

Media used for growth:

Phenol Red Agar base; add Mannitol, Antimicrobial Vial P, and Egg Yolk Enrichment 50%

Phenol Red broth base

Nitrate Broth

Litmus Milk

MR-VP Medium

Nutrient Gelatin

Nutrient Agar

See Part 2: Food Poisoning, Bacteria

bacitracin methylene disalicylate An animal drug used to promote growth and feed efficiency, to control dysentery, to reduce liver abscesses, and to increase egg production

bacitracin, zinc An animal drug used to promote growth and feed efficiency

back The upper part of an animal from the neck to the pelvis area

See Part 2: Meat Identification

backbone (spinal column) Vertebral column, consisting of cervical, thoracic, lumbar, sacral, and caudal vertebrae See **thoracic vertebrae**; **lumbar vertebrae**; **sacral vertebrae**

See Part 2: Beef Wholesale Cuts; Bone; Bone in Retail Cuts; Lamb Wholesale Cuts; Pork, Cooking; Pork Loin Cooking; Pork Wholesale Cuts; Veal Wholesale Cuts

back end of machine Discharge end

back fat Fat from the back region, usually pork

back order That portion of an order that cannot be delivered at the scheduled time, but that will be delivered at a later date

back-packed Cured meat product in a weak pickle (25°) and stored at -15°F to await a more favorable market

backsberg A red and white wine

backsettler See **black tea**

backstein A German, brick-shaped, limburger-type cheese

backsteiner A soft to semisoft, low-fat, strongly flavored cheese made from cow's milk and bacterially surface-ripened

backsteinkäse A limburg-type cheese made from whole cow's milk

back strap A wide, elastin, yellow band located along the top of the shoulder of an animal and used to support the head; it should be removed from a roast because it will remain tough; also called *ligamentum nuchae*.

See Part 2: Beef Rib Nomenclature

backwardation Market situation in which prices are progressively lower in the future delivery months than in the nearest delivery month. Backwardation is the opposite of contango.

bacon A belly or side of a hog that has been cured and may be smoked; about 12% of a hog carcass (head and leaf fat on). Slices of cured pig meat

Bacon, Canadian style, is made from boned pork loin.

Bacon squares are made from jowl.

Salt pork (white bacon) is salted back fat.

Slab bacon is bacon from the whole belly or sections of it (unsliced).

Cured pork belly

Thin-sliced = 35 slices/lb

Regular-sliced = 22 slices/lb

Thick-sliced = 18 slices/lb

Composition	Bacon		Canadian	
	Raw	Cooked, drained	Unheated	Cooked, drained
Water (%)	19	8	62	50
Protein (%)	8	30	20	28
Fat (%)	69	52	14	17
Carbohydrate (%)	1	3.2	0.3	0.3
Ash (%)	2	6.3	3.6	4.7

Bacon, raw: 0.15% cholesterol

Cooked: 137 mg Na/slice (7 g)

Canadian: 394 mg Na/slice (28 g)

Storage: keep in original wrappers; refrigerate at 36–42°F; should be used within 1 week after opening
See Part 2: Bacon Dressing; Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Calories, Daily Recommendations; Food, Composition; Meat and Meat Products Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat Storage; Minerals, Food; Pork Chart; Pork, Cooking; Pork, Cooking Methods; Pork Cuts; Pork Cuts and Uses; Pork Storage; Pork Yield; Portion Size; Spoilage, Protein Foods; Storage Times; Thiamin, Food

bacon fat Fat obtained from cooking bacon; mp 34°C (93°C); smoke point 290–300°F (143–149°C)

bacon square (jowl bacon) Cured and usually smoked pork jowl

bacon type A classification of hogs that usually includes the following breeds: Landrace, Tamworth, and Yorkshire

bacter- Prefix meaning small staff or rod

bacteria Microorganisms usually consisting of a single cell composed of proteinaceous substances. They may be of several shapes, e.g., rod-like (bacilli), spher-

ical (cocci), filamentous, etc. They normally reproduce by splitting in two (fission). Many types are infectious, but others are beneficial. They play a part in the oxidation and spoilage of foodstuffs.

See Part 2: Bacteria, Molds, and Yeasts; Bacteria on Chickens at Various Holding Temperatures; Culture Media; Egg Specifications; Food Poisoning, Bacteria; Illness from Food; Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Most Probable Number; Most Probable Number, Bacterial; Spices, Microbial Content

bacteria count Number of bacteria per gram or per square centimeter

bacterial See Part 2: Bacterial Food-Borne Illnesses

bacterial blight A plant disease caused by bacteria (e.g., by *Xanthomonas oryzae*, which causes dead leaves in rice)

bacterial canker A bacterial disease of apricot trees that affects buds and spurs; cankers form on large limbs and the trunk.

bacterial fruitlet rot See brown rot

bacterial leaf blight A rice disease caused by a bacterium (*Xanthomonas oryzae*). It may be controlled by planting resistant varieties of stock.

bacterial spot (*Xanthomonas pruni*) A disease caused by bacteria on peach, apricot, nectarine, and plum leaves, fruit, and twigs. Leaves first have water-soaked areas on the underside; then small, irregular, dark-green spots, which have a greasy appearance; later the spots turn brown or black, usually concentrated at the tip. Fruit has water-soaked spots, which enlarge, turn greenish white, and become slightly raised. They eventually turn light brown and become sunken and scabby with cracks in the skin or deep pits that make rot infection possible. Fruit is not affected after it ripens.

Control: plant disease-resistant varieties; use fixed copper

See Part 2: Sorghum Diseases

bacterial starter culture A preparation used in manufacturing some sausage; not to exceed 0.5%; e.g.,

1. Thuringer
2. Lebanon bologna
3. Salami
4. Pork roll
5. Cervelat

bacterial streak See Part 2: Sorghum Diseases

bacterial stripe See Part 2: Sorghum Diseases

bacteria-treated A product that has been treated by exposure to ethylene oxide gas to reduce levels of microorganisms

bactericide A product that kills most bacteria; synonymous with germicide except more restrictive in what it is active against

bacteriophage An organism (often a virus) that inhibits the growth of bacteria by surrounding and gradually disintegrating the bacterial cell ("phage" = "eats")

See Part 2: Sanitizing Chemicals

52 bacteriostat

bacteriostat An agent that inhibits or stops the growth and reproduction of or kills bacteria

bactofugation Centrifugal force and heat applied to food to reduce bacterial count

bacto-tryptone A peptone used in microbiological differential test media based on the elaboration of indole by bacteria; used in examination of water and sewage, dairy products, and in canned goods for "flat sour" and "sulfide spoilage"

See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

bactrian A two-humped (220 lb fat) camel that is grown for wool (outer hair is coarse and wiry, undercoat is short, soft, and fine), milk (2.9% fat), work (20–30 mi/day), and meat; often found in desert and semidesert areas

badacsonyi A full-flavored, white wine

badacsonyi keknyelu Moderate, dry, Hungarian wine

badderlock (henware; honeyware; murlin; *Alaria esculenta*) An edible seaweed

badek A rice beer

baden A region in southern Germany with volcanic soil that produces powerful, aromatic wine

badiane (badian; Chinese anise; star anise) The fruit of a Chinese anise tree; its aromatic volatile oil is used as a condiment and for flavoring; an alcoholic beverage flavored with bitter almonds

See Part 2: Essential Oils

badminton Wine cup made from claret and herbs

bael (*Bengal quince*) Fruit of a sour citrus tree used for preserves and flavoring

baffle A plate used to deflect or retard the course of a material (often gas)

bagaceira Brandy distilled from fermented grape juice

bagasse Pith or cellulosic waste remaining after the processing of sugar cane; also used as pig feed, as poultry litter, as a mulch, as insulation board, and locally as a boiler fuel

See Part 2: Fuel, Heating Value

bagel A small, crusty, ring-shaped, golden brown, yeast roll or biscuit made from high-gluten flour, given a short fermentation period, and boiled in syrup or poached in salt water; the roll is topped with poppy or caraway seed and baked in a hot oven. Jewish bread that is sliced and eaten with butter or cream cheese

1 bagel = 2 oz

See Part 2: Fermented Ingredients

BAGG broth See Part 2: Microorganism, Media

baghrir A wheat, semolina pancake

bagnes A semihard, cow's-milk cheese with a full, fruity flavor

bagni A sorghum beer

bagoong A fermented, yellow-brown, salty (20–25%), fish, clam, or shrimp paste used as a flavoring or condiment

bagoong na alamang A fermented, gray or pink, salty, small shrimp paste condiment

bagoong na isda A fermented, gray, salty, fish paste condiment

bagoong na sisi A fermented, salty, shelled oyster paste condiment

bagozzo A dry, yellow, hard, sharp, pungent, caciotta Italian cheese that is made from cow's milk and often has a red rind

baguette French bread

Types available:

Anglaise (long and cylindrical with a flat, cut top)

Ficelle (very thin)

Gruau (darker and thinner than anglaise)

baguette bread The main type of French bread, with seven cuts on the surface; approximately 70 cm long and weighs 250 g

baguette cheese A strong-flavored, cow's-milk cheese usually packaged in boxes

baguilumbang nut (soft lumbag; *Aleurites trisperma*) A tree native to the Philippines that is very similar to the tung oil tree; a drying oil is extracted from the seed.

See Part 2: Unsaturated Fatty Acids

bagworm An insect; the larva is brown to dark brown and is found on leaves in a conspicuous spindle-shaped case or bag. The adult female is rarely seen. The larva eats the leaves of fruit trees.

Control: remove bags and burn them

bahia A liqueur flavored with coffee

bahia grass (*Helminthosporium sativum*) A tropical American, perennial pasture grass

See Part 2: Seed, Germination

baida A white, brined cheese made from skimmed cow's or buffalo's milk

baie de houx A brandy made from holly berries (*Ilex aquifolium*)

bail A wire handle attached to ears or cleats of a container

Bailey's A low-alcohol, whiskey cream liqueur flavored with chocolate

bai-ming A sour, fermented snack made from tea leaves

bain-marie A multiple-compartmented double saucepan; a double boiler in which foods are cooked in separate sections; a double boiler in which water surrounds the cooking pot

Baird Parker agar A medium used to grow *Staphylococcus aureus* See **agar-agar**

See Part 2: Microorganism, Media

bakasang Fermented fish food

bakava A nut-filled, thin-layered (30 layers) pastry flavored with butter and honey

bake To cook covered or uncovered in an oven, usually by dry heat; to cook by covering with coals, heated stones, or heated metal; when applied to meat it is often called roasting; to roast; to cook in a covered casserole

See Part 2: Altitude Adjustments for Baking; Lamb Cuts; Pork Cuts; Pork Loin Cooking; Poultry Class; Veal Chart

bake blind To bake a pie shell without its filling

baked Alaska A frozen desert consisting of a block of ice cream over which is spread a coating of meringue made of beaten egg whites, sugar, and flavoring. The combination is baked in a hot oven for 3–5 min, till meringue is delicately browned.

baked apple berry See *cloudberry*

baked beans 1) Beans baked (dry heat) in an oven before canning. 2) Steam-baked beans; beans are cooked by steam in the can after sealing; dried beans that are soaked, boiled, and retorted with pork and tomato products, often baked before serving; 6% protein, 17% carbohydrate. 3) Dry mature beans processed in tomato sauce or in brown sugar and molasses, usually with pork, and cooked in ovens See also *haricot bean*

Composition: 810 mg Na/cup; pH 5.6

See Part 2: Portion Size

baked goods Foods that have been cooked by baking Storage (frozen): freeze after cooling, wrap in moisture-vapor-resistant materials, and freeze to 0°F or lower.

See Part 2: Baked Products, Frozen Storage Life; Calories, Daily Recommendations; Frozen Food Storage

baked oyster shells A liming material composed of 85% CaCO₃; each pound has the neutralizing equivalent of 0.8–0.9 lb of CaCO₃ (or approx. this quantity of dolomitic limestone).

baker A dish without a fitted cover, used to hold vegetables for serving

baker's cheese A fine-grained cheese, similar to cottage cheese, that is made from skimmed cow's milk and drained in bags; may be salted or unsalted; used in pastries and cheese cake

baker's custard See *crème patisserie*

baker's yeast Yeast used in baked bread items and other baked goods

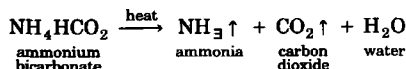
bakery waste Often dehydrated (dried bakery waste) and used as animal feed

Composition (dried): dry matter 92%; protein 10%; fat 12%; fiber 1.2%; ash 4%

bakey Descriptive of an unpleasant taste in tea usually caused by too high a firing temperature

bakhar See *atsumandie*

baking ammonia (ammonium bicarbonate)



baking chicken See *hen*

baking powder A mixture of dry acid or acid salt with baking soda and starch or flour (stabilizer that functions by absorbing atmospheric moisture and keeping ingredients dry to prevent reaction prior to use)

Contents:

Baking soda—sodium bicarbonate (NaHCO₃)

Acid salt—cream of tartar, or tartaric acid, calcium acid phosphate, or sodium aluminum sulfate

Starch—cornstarch

Must liberate at least 12% CO₂; may be single- or double-acting. In the presence of moisture as well as heat, carbon dioxide is evolved as a result of the chemical reaction of the acid on the carbonate. The following are commonly used:

Acid

Citric acid

Tartaric acid

Acid salt

Calcium acid phosphate (fairly fast-acting)

Combination of calcium acid phosphate and sodium aluminum sulfate (moderately fast-acting)

Cream of tartar or tartaric acid (fast-acting)

Potassium acid tartrate

Sodium aluminum sulfate (slow)

Acid food substance

Brown sugar (contains some molasses)

Chocolate (not Dutch process)

Corn syrup

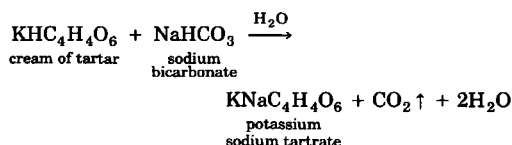
Honey

Maple syrup

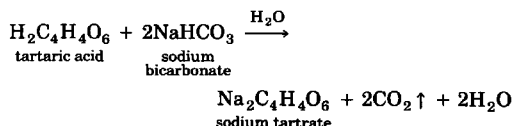
Molasses (organic acids)

Sour milk (lactic acid)

Single-acting: potassium acid tartrate (cream of tartar) and tartaric acid; yields gas when combined with liquid and gas expands when heated



or



Fast-acting: liberates 80% CO₂ during mixing and standing; contains 5.95% tartaric acid [H₂(C₄H₄O₆)], 44.90% cream of tartar [KH(C₄H₄O₆)], 26.72% sodium bicarbonate [(NaHCO₃)], 22.40% starch (C₆H₁₂O₆)_n or 33.45% monocalcium phosphate [(CaH₄(PO₄)₂ · H₂O)], 26.73% sodium bicarbonate, and 34.84% starch; needs to be baked soon after mixing

Slow-acting: liberates CO₂ when heated; contains 40.38% sodium acid pyrophosphate [Na₂H₂(P₂O₇)], 30.59% sodium bicarbonate, and 29.03% starch

Double-acting (a slow- and a fast-acting ingredient): sodium aluminum sulfate, which reacts with baking soda on heating, and calcium acid phosphate, which reacts with baking soda when mixture is cold; most commonly used; yields gas when combined with liquid and when heated

4 tsp = $\frac{1}{2}$ oz

1 tsp = 3.6 g

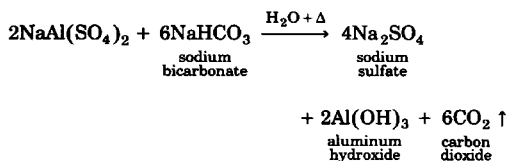
54 baking powder

Type	Vol. (tsp)	g	Water (%)	Calcium (mg)	Phosphorus (mg)	Potassium (mg)
Sodium aluminum sulfate, monocalcium phosphate	1	3.0	2	58	87	5
Sodium aluminum sulfate, monocalcium phosphate, calcium sulfate	1	2.9	1	183	45	—
Straight phosphate	1	3.8	2	239	359	6
Low sodium	1	4.2	2	207	314	471

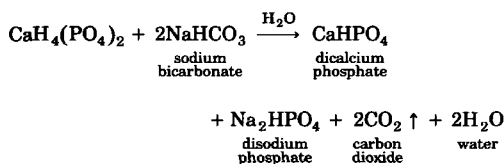
Double-acting (cont)

1 tsp double-acting
 = $1\frac{1}{2}$ tsp single-acting
 = $\frac{1}{4}$ tsp baking soda
 + $\frac{1}{2}$ cup sour milk or buttermilk [in place of $\frac{1}{2}$ cup sweet milk]

Sodium aluminum sulfate:



Monocalcium phosphate:



Calcium acid phosphate and/or sodium acid pyrophosphate: may be double-acting; intermediate between other two as to when CO_2 is released

Composition (double-acting): 13.28% monocalcium phosphate [$\text{CaH}_4(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$], 19.92% sodium aluminum sulfate, 26.73% sodium bicarbonate, and 40.07% starch or 6.68% monocalcium phosphate anhydrous [$\text{CaH}_4(\text{PO}_4)_2$], 21.39% sodium aluminum phosphate [$\text{NaH}_{14}\text{Al}_3(\text{PO}_4)_8 \cdot 4\text{H}_2\text{O}$], 26.37% sodium bicarbonate, and 45.21% starch

Baking powder contains 339 mg Na/tsp (3 g).

1 tsp = 3.8 g

1 tsp baking powder

= $\frac{1}{4}$ tsp baking soda + $\frac{1}{2}$ tsp cream of tartar

= $\frac{1}{4}$ tsp baking soda

+ $\frac{1}{2}$ cup of fully soured milk or buttermilk

= $\frac{1}{4}$ tsp baking soda + $\frac{1}{2}$ tbsp vinegar or lemon juice + $\frac{1}{2}$ cup sweet milk

1 tsp baking powder (cont)

= $\frac{1}{4}$ tsp baking soda + $\frac{1}{4}$ - $\frac{1}{2}$ cup molasses

$2\frac{1}{2}$ cups baking powder = 1 lb

$2\frac{1}{2}$ tbsp baking powder = 1 oz

Too much will cause a salty, bitter taste and will sometimes discolor the product.

Altitude adjustment for cake baking:

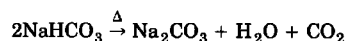
Elevation (ft)	Decrease baking powder per cake (tsp)
2000	$\frac{1}{4}$
3500	$\frac{1}{3}$
5000	$\frac{1}{2}$
6500	$\frac{2}{3}$
8000	$\frac{3}{4}$

Storage: Keep at room temperature (below 70°F, shelf life 1 yr); baking powder loses its strength with age.

See also **altitude**

See Part 2: Altitude Adjustments for Baking; Minerals (Trace), Limits

baking soda (bicarbonate of sodium; sal soda; sodium bicarbonate) (Potassium bicarbonate can be used in low-sodium diets.) An ingredient of baking powders. When heated, it evolves carbon dioxide, which acts as a leavening agent in cooking.



It may be used when mixture contains acid (e.g., buttermilk, molasses, chocolate, fruit, or fruit juices); ingredients, should be baked immediately after mixing. Usually, an acid ingredient is used with the baking soda to reduce the soapy-tasting by-product of this reaction.

Composition: 821 mg Na/tsp (3 g)

$\frac{1}{4}$ tsp soda + $\frac{1}{2}$ tsp cream of tartar + 1 tsp baking powder

1 oz = 3 tsp

1 tsp = 4.1 g

Altitude adjustment for cake:

Elevation (ft)	Decrease baking soda per cake (tsp)
2000	$\frac{1}{4}$
3500	$\frac{1}{3}$
5000	$\frac{1}{2}$
6500	$\frac{2}{3}$
8000	$\frac{3}{4}$

Baking soda can also be used for removing odor.

baklava A Middle-Eastern sweet made from many layers of thin pastry and butter and covered with chopped nuts (often walnut) and syrup (often honey)

bakleverworst A moist, cooked, smoked or unsmoked Dutch sausage made from finely chopped, medium-seasoned beef and pork liver stuffed into an artificial casing

balachan (balachong; belachen; blachan) A Far-Eastern condiment made from fermented seafood or shrimp paste, chilies, and salt

baladi A panir-type cheese made from sheep's or cow's milk

balady A flat pocket bread

balamuth medium See Part 2: Microorganism, Media

balance Blending products for the proper mix

balance of payment Difference between total payment made to foreign nations for goods purchased and the receipts from them for goods sold

balance of trade Difference between money value of merchandise imported and exported

balance sheet of agriculture A statement indicating the value of land and property that farmers own balanced against the debt that farmers owe

balao balao Red or brown, salty, fish paste made by fermenting fish with rice

balbakwa Salted (30%) and aged fish

balche A white, alcoholic, viscous, beverage made by fermentation of the juice of the century plant (*Agave*)

balda-babaran A sorghum beer

baldpate widgeon (green-headed widgeon; wheat duck; white-belly; widgeon; *Mareca americana*) An edible wild game bird

Baldwin A variety of apple that is in season from Nov. to March; good sauce and cooking apple and fair eating apple

balkan A moist, cooked, smoked Finnish sausage made from medium-chopped, medium-seasoned beef and pork stuffed into a 60-mm artificial casing and cooked with warm smoke

ball A name given to edam-like and to some Pennsylvania cheeses

ball and socket See ground glass joint

balleron A moist, cooked, smoked or unsmoked Swiss sausage made from fine- or medium-chopped, mildly

seasoned beef, pork, and veal stuffed into a beef or an artificial casing

ball mill A porcelain container filled about half-full with flintlike balls and rotated in the horizontal position; used to mix and grind chemicals

ballotine 1) Meat that is boned, stuffed, and rolled.
2) Galantines dish

balm (lemon balm; *Melissa officinalis*) A fragrant, perennial herb (fresh or dried) of the mint family with lemon-scented foliage that is used for flavoring beverages (e.g., wine, punches, fruit drinks, tea), meat, and poultry and is used in salads

Types:

Bastard balm, *Melittis melissophyllum*

Bee balm, *Monarda didyma*

Canary balm, *Cedronella triphylla*

Horse balm, *Collinsonia canadensis*

Moldavian balm, *Dracocephalum moldavicum*

Molucca balm, *Molucella laevis*

See horse balm; lemon balm

balm mint See brandy mint

balnut Fermented eggs packed in bamboo cylinders for 18–20 days and then hard-boiled

balsam One of several varieties of resinous tree products characterized by a distinctive pleasant aroma and a sticky consistency. Used as a flavoring agent in many foods and in certain types of medications such as cough syrups, e.g., Tolu balsam, Canada balsam, and Peru balsam

See Part 2: Organic Acids in Fruits and Vegetables; Essential Oils

balsam apple See bitter melon

balsam pear (bitter gourd; *Momordica charantia*) A tropical climbing plant that produces a rough ribbed elongated (up to 8 in.) fruit that is orange-yellow or white

Uses: fruit is cooked and eaten; tender shoots and leaves can be cooked like greens. See bitter melon

balsam Peru oil An oil that is extracted or distilled from *Myroxylon pereirae* and used as a flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

balsam wool A heat-insulating and sound-reducing material made from shredded wood fibers

See Part 2: Insulation

balsa wood A light, strong wood from tropical America

balushahi A sugar-coated doughnut made from wheat flour

balut A hard-boiled duck egg containing a partly developed embryo

bambaloni A ring doughnut made from wheat flour

banbermycins An animal drug used to increase weight gain and improve feed efficiency

bamboo bean Shoots are stir-fried, deep-fried, or eaten fresh

bamboo shoot (jook sun; *Phyllostachys*) Thick (3-in. diam.), tender-crisp, green-pointed (6–12 in. long) shoots that grow from the ground under a bamboo plant; in appearance, they resemble aspara-

56 bamboo shoot (jook sun; *Phyllostachys*)

gus spears and in flavor, the artichoke; prepared like asparagus. If not harvested, they would grow into new stems.

Types:

- Spring (darker, harder, takes longer to cook)
- Winter (most expensive; soft creamy color)

Available forms:

- Canned without salt
- Canned with salt
- Fresh

1 cup julienne strips bamboo shoots = 8 oz

They are boiled, salted, or pickled.

Composition: moisture 91%; protein 3%; fat 0.3%; carbohydrate 5%; ash 1%

bambula cake Cassava bread

bamfo bisi A deep-fried, fermented maize or maize with plantain

bamia See okra

bammie Cassava bread; fried cassava cakes

banana (*Musa acuminata*; *M. balbisiana*; *M. hybrid*; *M. sapientum*) A giant herb (originally from Eastern and Southeastern Asia) that produces bunches of fruit; each bunch contains 9–12 half-spirals (hands) of fruit, each containing 12–16 fruits (fingers); one bunch may contain 120–200 bananas and weigh 50–80 lb.

Plant growth:

- Height—10–33 ft
- Temperature—60–95°F (75°F optimum)
- Moisture—plentiful
- Rhizome or sucker to harvest—9½–30 months (average growth period 365 days)

Types:

- Dessert—eaten raw; 17–19% sugar
- Lady fingers—short fruit
- Red-skinned—red skin and orange tint to flesh
- Cooking—high starch, low sugar, picked green

Forms: Most are eaten fresh, some cooked, some dried and some made into flour, some fermented into beer.

Names:

- Apple (Lady Finger)
- Cavendish—commercial
- Orinoco (horse banana)—good for cooking
- Plantain—starchy cooking banana

To prevent darkening after slicing, dip in lemon, lime, orange, grapefruit, or pineapple juice.

Dried types:

- Slices (dark yellow; require rehydration prior to use)
- Flakes (yellow-gray)
- Powder (yellow-gray)

	Weight (oz)	Size (in.)
Small	4.9	$7\frac{3}{4} \times 1\frac{11}{32}$
Medium	6.2	$8\frac{3}{4} \times 1\frac{13}{32}$
Large	7.0	$9\frac{3}{4} \times 1\frac{7}{16}$

Refuse: 35%

1 box (13 × 12 × 32 in.) = 40 lb

1 lb = 3–4 bananas

= 2 cups, sliced (1 cup = 140 g or 5 oz)

= 1½ cups, mashed (1 cup = 230 g or 8.2 oz)

= 3–4 servings

1 cup, mashed = 2–3 med. bananas

= 1 large banana

= 7.8–8.2 oz

1 serving = 1 med. banana

1 cup, diced = 1 small banana

1 cup, chunks = 5 oz

1 cup, sliced = 1¼ med. bananas

= 5.0–5.1 oz

1 cup, dry flakes = 3.6 oz

Composition: moisture 76%; protein 1%; fat 0.2%; carbohydrate 22%; ash 0.8%; pH 4.5–4.7

	Sugar (%)	Starch (%)
Green (astringent)	2	20
Ripe	19	2

Fiber—1.8%

Vitamin A—430 IU/100 g

Ascorbic acid—10 mg/100 g

Edible energy value 5.4 MJ/kg

Fruit should be picked green and allowed to ripen (at room temperature) off the tree (good traveler). Skin of the fruit is green and turns yellow, speckled with brown spots, when ripe.

To ripen for market: hold at 68°F for several days

Storage conditions: unwrapped; keep out of sun; temperature 55–60°F (refrigeration below 55°F stops ripening and results in browning, softening, and undesirable flavor development often called chill damage, but can be used for short-term storage if necessary); relative humidity 90%; freezing point 26–30°F

Uses:

Green fruit—vinegar; dried for flour

Leaf—wrapping in which food can be cooked

Male bud—used as cabbage

Ripe fruit—rum; dried

Trunk—livestock feed

See **anthracnose rot; crown rot; pitting; plantain; speckle; thielaviopsis stalk rot**

See Part 2: Ascorbic Acid; Banana, Areas of Production; Bananas, Composition; Calories, Daily Recommendations; Canned Spoilage Related to pH; Flavor Ingredients, Taste and Flavor Type; Food, Composition; Fruit and Vegetables; Diseases; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Servings Per Pound; Fruit Storage; Iron; Microwave Cooking, Fruit; Minerals, Food; Niacin; Niacin, Daily Recommendations; Organic Acids in Fruits and Vegetables; Phosphorus; pH Values of Biological Materials; Plant Foods, Composition; Potassium; Potassium-Rich Foods; Riboflavin; Storage; Thiamin; Transit Temperature; Vitamin A, Daily Recommendations; Vitamin C

banana chilling injury Chilling can cause peel injury for both green and ripe bananas:

Green—surface cells in the peel are killed and oxidation causes a dark and “smokey” appearance. There is often a brown ring under the peel and the banana is more sensitive to mechanical injury. Ripening is also delayed. Flavor loss and core hardening sometimes also occur.

Ripe—dull or dark brown appearance. (Sunlight will also darken the peel.)

Chilling injury is caused by 12-h exposure to temperatures below 45°F

Transportation temperature: 53–56°F

Ripening temperature: 55–68°F

banana cream pie Composition: 90 mg Na/ $\frac{1}{8}$ pie (66 g)

See Part 2: Grain Products, Composition

banana, crème de A mixture of banana and brandy

banana fig 1) Porridge or paste made from green banana (*Masa*) flour. 2) Dried banana slices

banana flavoring A synthetic flavoring mixed with alcohol and water

banana flour (bananose) Well-ripened bananas are dried and then ground into a gray to yellow meal; also, a pale gray, easily digestible flour made from bananas

banana, red (claret banana) A strong-flavored banana that does not ship well

banana squash A 1.5- to 2-ft winter squash with tapering ends and a distinctive flavor; both smooth and wrinkled skin types are available, with ivory to pale orange color, turning pink with storage. See **squash, winter**

bananose See **banana flour**

banbury 1) A small, round, soft, rich English cheese. 2) A tart made of citrus peel and raisins baked in a pastry shell

bancha A coarse-leaf, Japanese tea

bandal A panir-type cheese made from cow's milk; sometimes lightly smoked

Banda mace Dried arillodes of nutmeg from Banda (Nile area of Africa), which contain 13% essential oil
See Part 2: Spices, Microbial Content

B and B An after-dinner cordial made from 1 part benedictine and 1 part brandy

bandon A cheddar-type cheese made from Jersey cow's milk

band treatment Application of herbicide only to the row area and depending on cultivation to eliminate weeds between rows

banfo A hard, yellow, milk cheese with eyes

bang A beverage made from ale, cider, whiskey, or gin with sugar and spices

banger A medium- to coarse-chopped, uncooked, unsmoked, American sausage available as large-diameter links or rings; hot grilled or fried English sausage; a sausagelike product containing various amounts of rusk or other cereals

bangi A green, baseball-sized fruit from the Philippines, with milky juice

Bang's disease A cattle disease causing abortion, weak calves, sterility, and retention of afterbirth; usually spread by infected animals; infected animals should be slaughtered; called undulant fever in humans. See also **brucellosis**
See Part 2: Illness from Food

bank cress See **cress, American**

banker A sour-dough, fermented dumpling usually made with maize and cassava

bannet Herbal substitute for cloves

bannock A large, flat, round, unleavened, hearth-baked bread or cake (many varieties)

banon A valençay-type cheese, made from goat's, sheep's, or cow's milk, that is spiced (often with

savory), soaked in valençay brandy, wrapped in chestnut or savory leaves, and matured for 2 weeks to 2 months. A small, thin, blue, mold-covered, French cheese, close white curd and mild flavor

bantu A passion-fruit (*Passiflora*) liqueur

bantu beer A sorghum beer

banyuls A dark, fortified (16% alcohol), French sweet or dessert wine

Types:

Aged (Rancio)

Red (Grenache)—black grapes

Rosé (Grenache)—black grapes

White (Banyuls)—white grapes

baobab A 12-in. subacid fruit encased in a woody shell See **monkey bread**

bag A soft-textured, small, white, round, wheat-flour loaf of bread or roll

Types:

Buttery

Floury

bar 1) A measure of atmospheric pressure equal to one million dynes per square centimeter (10^6 dyn/cm²)

1 bar = 1×10^6 dyn/cm²

= 1.020×10^4 kilograms per square meter (kg/m²)

= 2089 pounds per square foot (lb/ft²)

= 33.46 feet of water at 4°C (ft H₂O)

= 29.53 inches of mercury at 0°C (in. Hg)

= 14.504 pounds per square inch (lb/in.²)

= 1.020 kilograms per square centimeter (kg/cm²)

= 0.9869 standard atmosphere (atm)

2) *Galeichthys marinus*—a white-fleshed, saltwater catfish

bara brith A heavily fruited tea bread

barack likor An apricot liqueur

barack palinka An apricot liqueur

Barbados An island in the West Indies; often indicating products produced there. See also **molasses**

Barbados cherry An acid berry similar to a cherry and used in pies

Barbados gooseberry A cactus plant that has a yellow, smooth berry See **gooseberry**

Barbados rum A light and dry rum

Barbados water Rum

barbaresco An Italian Piedmont (northwestern Italy) light, dry, red wine made from Nebbiolo grapes

barbari A flat pocket bread

barbarone Red table wine

barbary fig See **prickly pear**

barbecue (barbeque, bar-b-Q) To cook in a pit; the whole carcass may be roasted. A meal in which barbecued meat is served. A meat with sauce roasted over coals or in an oven; to roast or broil, basting with a highly seasoned sauce (to cook in or served with barbecue sauce)

See Part 2: Poultry Class; Sauce, Barbecue

barbecue loaf A comminuted meat loaf made from beef and pork seasoned with barbecue flavor

58 barbecue loaf

Composition: moisture 65%; protein 16%; fat 9%; carbohydrates 6.5%; ash 4%

barbecue pit An earth (sometimes masonry) pit in which food is steam-cooked; heat is supplied by coals, hot rocks, or hot metal; moisture is supplied by the food or other vegetable matter added to the pit; it is a slow cooking process

barbecue sauce Many types of sharp sauces used in cooking or served with grilled meat. A typical sauce may be made from mango, onion, pepper, salt, spices, sugar, tomatoes, and vinegar

Composition (Ready-to-serve): moisture 80.9%; protein 1.8%; lipids 1.8%; carbohydrates 12.8%; fiber 0.6%; ash 2.7%; 130 mg Na/tbsp (16 g)

barbe de capucin See **chicory**

barbel (barbillon; *Barbus barbus*) An edible European freshwater fish of the carp family; its soft roe is good to eat but hard roe is poisonous.

barbera 1) A red grape. 2) A full-bodied, dry, tart Italian Piedmont (northwestern Italy) red table wine

barberey (fromage de Troyes; troyes) A small (5 in. diam. × 1-in. thick), soft, rennet-coagulated cheese made from whole cow's milk and similar to camembert. A rocroi-type cheese matured in wood ashes

barberry (berberry; *Berberis vulgaris*) 1) A tart, red berry of a shrub; used for acid-flavored jellies, jams, or preserves. 2) Fruit from a group of plants that have small blue to black berries that are used in sauces, pies, preserves, ices, and beverages and are dried like raisins

barbery See **troyes**

barcelona nut Hazelnut kernel

bard Thin strips of bacon or fat secured to meat or poultry to prevent drying during cooking

Bardolino A light red wine with a touch of sharpness produced in the Lake Garda and Verona regions of northern and northeastern Italy

barenfang A sweet, honey liqueur flavored with lime

barfi A fudgelike candy

barge A measure of pressure

1 barge = 1 dyne per square centimeter (dyn/cm²)

barium (Ba) An alkali metal element; at. no. 56; at. wt. 137.36; oxidation state +2;

electron configuration 2-8-18-18-8-2

orbit K L M N O P

Group IIA of Periodic Table. Barium and all its solu-

ble compounds are toxic; insoluble barium sulfate is not.

See Part 2: Grain Analysis; Normal Solutions; Water Drinking Standards

barium carbonate See Part 2: Normal Solutions

barium chloride See Part 2: Normal Solutions

barium fluosilicate (BaSiF₆) An inorganic insecticide

barium hydroxide [Ba(OH)₂] mol. wt. 171.3547; equiv. wt. 85.6773

See Part 2: Normal Solutions

barium nitrate See Part 2: Reagents, Normal Solutions

barium oxide See Part 2: Normal Solutions

bark Outer covering of a tree or fat covering of an animal

See Part 2: Beef Rib Nomenclature; Wastes, Agricultural and Industrial

bar-le-duc A jam with red or white currants suspended in clear jelly

bar le duc jelly Preserves made from red currants with the seed removed; more sugar than normal is used and the berries remain whole.

barley (*Hordeum vulgare*) 1) An annual grain, originally from Central Asia, used for malt, meal, and livestock feed; matures in 265-280 days; plant 80-100 lb (2 bu) per acre. Kernel color may be white (preferred), red, purple, blue, or black. Enzymes from sprouting barley are used for brewing and fermentation.

To prepare for food: boil or parch the whole grain, and grind for making gruels, or flour for flat bread.

Type	Genus	Description	Uses
2-row	<i>H. distichon</i>	Only middle spikelet of each three produces seed	Malting; pearl barley soup and stew; patent barley meal; livestock feed
6-row	<i>H. vulgare</i>	3 spikelets develop per node; more hardy than 2-row	Same uses

Moisture content for storage should be less than 13%; pH 6.0; variety—Davie

Composition	Grain	Grain (Pacific coast)	Pearled	Grain screenings	Hay (sun-cured)	Straw
Dry matter (%)	88	89	89	89	87	91
Protein (%)	12	9.6	9	11.7	7.6	4
Fiber (%)	5	6.3	—	8.6	24	38
Fat (%)	2	1.8	1	2.3	1.9	1.7
Ash (%)	2.3	2.7	1	3.1	6.6	6.5
Carbohydrate (%)	—	—	78	—	—	—

Composition: starch is of the waxy (devoid of amylose) type

1 cup unpolished or pearl barley is equivalent to 1 cup brown or white rice.

Grades or types:

Common

Grits—coarsely granulated common (used as porridge)

Pearl (perled)—polished, which removes inner and outer husk and leaves a round pellet free of hulls and bran

Medium pearl

Fine pearl

Starch (pot)—outer husk removed

Scotch style—coarsely ground barley with the husk (acid taste) removed but not polished

Unpolished (cooks more slowly than pearl)

Barley flour will darken and increase density of breads.

1 bu = 47–48 lb

1 qt = 1.5 lb

1 qt ground barley = 1.1 lb

2 cups pearl barley = 1 lb

Storage: tightly closed container in a cool place; freeze for longer storage

2) A medium- to coarse-chopped, uncooked, unsmoked, American sausage available as large-diameter links or rings

See Part 2: Cereal Composition; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Grain Products, Composition; Minerals, Food; Nutrients in Crops; Pentosans; Plant Foods, Composition; Protein Factors; Seed, Chemical Composition; Seed Composition; Seed, Germination; Soups, Composition; Spoilage, Fat in Food; Tocopherols; Vitamin A, Food

barley flour A breakfast food that contains the protein hordein, which has properties similar to gliadin; can be mixed with other flour but flavor is the limiting factor. To make raised bread, you can mix 20% barley flour with 80% wheat flour. To make hot breads with baking powder, you can mix 80% barley flour with 20% wheat flour.

barley malt 1) Malted barley. 2) Breakfast cereal containing malted barley

barley meal A dark whole-meal flour made from coarsely ground whole barley grain, including outer and inner husks

Composition: moisture 12%; protein 10–11%; fat 2–3%; carbohydrate 72–73%; ash 2–3%

barley miso A flavorful paste made from soybeans and barley

barley, pearl Barley that has been reduced to small round grains containing endosperm and a little of the bran **See** barley

barley sausage An English sausage made from beef and large quantities of barley **See** barley

barley sugar (Originally, it contained barley water.) Sucrose that has been heated until it melts and allowed to recrystallize in large granules; cane sugar flavored with lemon

barley water Barley boiled in salt water, strained, chilled, and used as a beverage; a liquid drink, often used with invalids, made from barley, water, and lemon juice

barley wine A sweet, strong, fruity ale

barley yellow dwarf A virus transmitted by insects (aphids, greenbug) that causes reduced growth and shriveled grain

barm 1) Yeast that forms on fermenting malt liquor.

2) A form of yeast used in making bread

barm brack Buns with currants

barm bread A wheat bread that uses fermenting malt liquor to extend the bread

barm cake A wheat-flour roll

barm yeast Top layer of fermenting malt liquor, used to inoculate other fermentations or to leaven bread

barnacle A crustacean; many edible varieties are available fresh or canned

barnyardgrass [*Echinochloa crusgalli* (L)] An annual weed

barny flavor A cowy or unclean flavor of milk

barolo An Italian piedmont (northwestern Italy) dark, red, dry, full-flavored table wine made from Nebbiolo grapes

baron Two hind legs and saddle of lamb

baron of beef Two unseparated sirloins; generally roasted

barraconta **See** barracuda

Food types:

Atlantic–Mediterranean, *Sphyraena sphyraena*

Australia (snoek, snook; similar to tuna or mackerel), *Thyrsites atum*

Giant sea pike (Indo–Pacific), *S. jello*

Japanese, *S. picuda*

Pacific, *S. argentea*

Sea pike, *Sphyraena* spp.

barracuda (sea pike; giant pike; *Sphyraena barracuda*) A large carnivorous sharklike or pike-like fish sometimes used for food; a small shark

Name and location:

Atlantic–Mediterranean, *Sphyraena sphyraena*

Giant sea pike (Indo–Pacific), *S. jello*

Pacific, *S. argentea*

Available fresh, salted, and dried

See Part 2: Vitamin D, Fish

barrel 1) A measure of volume

1 barrel = 42 gallons (oil)

2) A container; for wine and whiskey, an oak barrel is preferred

barrel (U.S.; dry) A measure of volume

1 dry barrel = 7056 cubic inches (in.³)

= 105 quarts (qt; dry)

= 3.281 bushels (bu)

barrel (U.S., liquid) A measure of volume

1 barrel = 1.1924×10^5 milliliters (ml)

= 32256 drams (U.S. fl)

= 7276.5 cubic inches (in.³)

= 4196.7 ounces (Br. fl)

= 4032 ounces (U.S. fl)

= 119.2369 liters (l)

= 31.5 gallons (U.S.)

= 26.23 gallons (Br.)

= 4.2109 cubic feet (ft³)

= 0.11924 cubic meter (m³)

60 barrel (U.S., liquid)

See Part 2: Barrel Size

barrique A wine container

1 barrique = approximately 50 gallons
= 225 liters
= 24 cases of wine

barro A clay soil that produces a coarse and heavy wine

barrow A male hog that has been castrated before advanced sexual development

See Part 2: Swine Market Classes and Grades

Barsac A full, sweet, white wine of high sugar content produced by allowing the grapes to stay on the vine until they are attacked by mold, dehydrated (concentrating the sugar), and pressed (of the small quantity of juice remaining) to produce a very expensive wine. See also *sauterne*

bar sirup (bar syrup) A simple syrup See *sirup*

bar syrup (bar sirup) See *gum syrup*

barszcz Borsch

Bartlett (William pear) A variety of pears of small size and rusty color

bartzch Brandy made from hogweed

Barzona An American breed of nearly solid red (light cherry to mahogany) cattle with a little white on underline and head; developed from an Afrikander-Hereford cross, mated to Santo Gertudis and Angus bulls

basal 1) Near the base. 2) An annual plant whose leaves are used to flavor soups, ragoûts, sauces, sausages, and salads. 3) Indicates intensity of natural body activity; physiologically, the metabolism of a human or animal organism under rest conditions (involuntary rate of metabolism)

basal diet A common diet to which experimental substances are added

basal glume rot (*Pseudomonas atrofaciens*) A bacterial disease of wheat that occurs at the base of the attachment point of glumes and kernels

basal metabolic rate (BMR) Heat produced during complete rest following fasting. It is measured by a calorimeter and is expressed as calories per square meter of body surface

basal metabolism Energy required for maintenance

basal spray To apply a spray to the bark at the base of a woody plant

basa wood See Part 2: Insulation

base Any substance that accepts or acquires protons (H^+), has a pH higher than 7.0, reacts with acids to form salts, and has the hydroxyl ion as its negative radical in solution See also *alkali*

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Indicators: pH and Acid Base

base acreage See *farm acreage base*; *crop acreage base*

base-forming foods Foods (e.g., milk, nuts, most fruits, potatoes, and legumes) that leave an alkaline residue in the body after the food has been utilized (oxidation). The pH of the urine reflects the character of the food.

basela (baselle; Indian spinach; Malabar night-shade) A tropical plant whose leaves may be used

as a vegetable

Types:

Red

White

base line In gas chromatography, a straight line drawn when no sample is going through the detector

base-line information (or data) Information on nutritional areas obtained before the planning and undertaking of applied nutrition programs; information that provides a basis for evaluating the results of these programs at appropriate times in the future

basella A climbing plant used as a substitute for spinach See *basela*

baseplate pressure Pressure that holds the body and end of a can (e.g., for food) against the chuck when the can is sealed

basi An alcoholic, juice wine made from sugar cane

Basic (beginner's all-purpose symbolic instruction code) A simplified, widely used programming language

basic commodities

Corn

Cotton

Peanuts

Rice

Tobacco

Wheat

basic loan rate The rate set by law for agricultural products. The basic loan rate cannot drop more than 5% below the previous year's. The Secretary of Agriculture can reduce the actual loan rate below the basic rate by as much as 20%. See: *Findley provision*

basic price An EEC trading term, fixed annually to apply throughout a 12-month period starting Nov. 1

basic salt Part of the available hydroxyl ion of the base, have been replaced by another negative radical

basic seven food group

1. Green, leafy, or yellow vegetables
2. Citrus fruits, tomato, cabbage
3. Potatoes and sweet potatoes, other fruits and vegetables
4. Milk and milk products
5. Meat, fish, poultry, eggs, legumes
6. Bread and cereal grains
7. Butter or margarine

basic slag A fertilizer material which is a by-product of the steel industry; fertilizer notation 0-9-0; basic in nature and equal to 0.5-0.7 lb of dolomitic limestone for each pound of material; 8-10% P_2O_5 , 46% CaO, 6% MgO

basil (herbe royale; sweet basil; *Ocimum basilicum* L.; *O. minimum*) A spicy, sweet, aromatic, annual herb (1-2 ft tall) of the mint family; green (purple also available), 1½-in. leaves used as seasoning with clovelike flavor. Thin to 7 in. apart in rows 18 in. apart; reaches maturity in 85 days; harvest 2-3 times/yr. The herbage is cut and used fresh or air-dried; seeds are also eaten. Used in meat pies, as seasoning, and in soups, stews, and tomato paste

Varieties:

Dwarf bush (*O. basilicum*)—primarily ornamental but also used for flavoring

Lemon—used as an ornamental and for flavoring

Lettuce leaf

Purple or opal

Types available:

Bush (holy basil, tulsi, *O. minimum*)

Italian, curly, lettuce (*O. crispum*)

Purple bush (*O. minimum purpureum*)

Sweet (*O. basilicum*: 18 in. tall, annual)—used for flavoring

Wild (basil thyme)—different flavor

Sources:

California (highest price because of color, uniformity, and cleanliness)

Sizes available: whole; coarse ($\frac{1}{4}$ in.); medium ($\frac{1}{8}$ in.); fine ($\frac{1}{16}$ in.); powdered

France (top import price; randomly sized)

Egypt (randomly sized)

Composition: (average ground): moisture 6–7% (9% max.); protein 14–15%; fat 3–4%; carbohydrate 60–61%; fiber 17–18%; ash 14–15 (3.7% max.; 15.7 max. sweet basil); volatile oil 0.4 v/w min.

1 part freeze-dried weight = 8 parts fresh weight

Other species sometimes also are called basil: *Calamintha acinos* (basil thyme); *C. clinopodium*; *O. gratissimum*; *Pycnanthemum* (several species)

To preserve flavor: Freeze in oil, 2 cups basil leaves per cup salad oil blend

See Part 2: Essential Oils; Flavoring Agents, Natural Spices, Microbial Content

basil butter Soften $\frac{1}{2}$ stick unsalted, sweet butter; add 1 tbsp finely minced fresh basil or $\frac{1}{2}$ tsp dried basil; cream together, adding a few drops of lemon juice

basil, dark opal An annual herb that is deep purple and used in flavoring

basil jelly Made from a basil infusion: Pour $2\frac{1}{2}$ cups boiling water over 1 cup fresh basil. Let cool and

strain. Then take 2 cups basil infusion, $\frac{1}{4}$ cup vinegar or apple cider, and $4\frac{1}{2}$ cups sugar; boil until sugar is dissolved; add $\frac{1}{2}$ bottle of liquid pectin; bring to a rolling boil and cook for $1\frac{1}{2}$ minutes; remove from heat and add 1–2 drops of food coloring if desired; fill sterilized jars and seal with melted paraffin

basil, lettuce leaf (*Perilla frutescens*) An annual herb with crinkled foliage

basil oil Steam-distilled from *Ocimum basilicum* and used as a spicy flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

basil vinegar Rinse basil and pat dry; fill jar lightly with basil; heat (do not boil) good cider or wine vinegar and pour vinegar over basil to cover; store at room temperature for 2–3 weeks; strain through cheesecloth and store in a bottle

basis The differential at any time between the futures price for a given commodity and the comparable cash or spot price for the commodity

basis weight A measure of thickness

Metal—weight per base box (31,360 in.²) in pounds per 31,360 square inches

Paper

a) in pounds per thousand square feet

b) in pounds per ream or 3000 square feet

bass (bar; lupus; sea perch) A food fish found in both fresh and salt water

Types:

Atlantic (salmon bass), *Morone labrax*

Bayou (20 lb, large mouth), *Huro floridiana*; *Micropterus salmoides*

Black sea (east-coast Atlantic), *Centropristes striatus*

Calico or strawberry (river), *Pomoxis sparoides*

Common (Japan), *Nipon spinosus*

Freshwater black (river), *Micropterus dolomieu*

Mediterranean–North sea, *Decentrarchus labrax*

Water	Common name	Other name	Fat (%)	Size (lb)	Where
Fresh	Calico	Strawberry		0.5	Great Lakes, Mississippi Southern coast
	Channel	Red drum		10–40	
	Largemouth black	Straw	2.6	2–20	
	Smallmouth black		2.6	0.5–5	
	White	Silver	2.3	1–2	
Salt	Black	Giant sea grouper	1.6		
	Black sea	Lupus		0.2–4	
	California white sea		1.6	50–100	
	Common	Blackfish, black sea	1.6		
	Striped, Sea striped bass	Rock fish, Stripper	2.3	0.5–75	

62 bass (bar; lupus; sea perch)

Types (cont)

Rock (river), *Amploplites rupestris*

Sea (salt water), *Morone labrax*

Stone (salt water), *Polyprion cernium*; *P. americanum*

Striped, *Roccus saxatilis*

White (river), *Lepibema chrysops*

See Part 2: Frozen Food Storage; Minerals, Food; Vitamin A, Fish; Vitamin D, Fish

bassersdorfer-schublig A moist, cooked, smoked Swiss sausage made from fine- or medium-chopped, medium-seasoned, beef, pork, and veal stuffed into a beef casing

bassora gum See *gum tragacanth*

basswood A tree that is fair for firewood, yielding 14 million Btu/cord (20% moisture), is easy to start, is easy to split, and produces medium smoke, fair coals, and few sparks

baste To moisten food during cooking by spooning or conveying by other means the pan liquor, butter, fat, or other liquid over the food at frequent intervals to prevent drying and/or to add flavor

basterma A salted, dried meat

bastourma Spiced ham

bata A sweet, fermented, alcoholic beverage made from honey, often flavored with fruit juice and spices

bâtarde A white sauce with eggs

batarekh Dried, salted fish roe (eggs)

batch bread A wheat bread

batch bun A fruit bun containing candied citrus fruit peel, saltanas, and butter

batch pack See *unit pack*

bate A digesting process used on hides prior to tanning to make them soft or pliable

Agents used:

1. Manures
2. Desiccated pancreas enzyme
3. A wood enzyme

Bath chap Sugar-cured lower cheek and tongue of pork

bath cheese A creamy, full-fat, soft, unsalted cheese made from cow's milk and consumed fresh

batsoy Noodle soup

battelmatt Swiss cheese made from cow's milk

batter 1) A mixture of flour and liquid

Name	Parts flour	Parts liquid
Pour	1	1
Soft drop	1 $\frac{1}{3}$ –2	1
Medium	3	1
Stiff drop	4	1

2) A mixture of tissue for a sausage product. 3) Any mixture thin enough to pour or drop from a spoon See *dough*. 4) A semiliquid mixture, primarily of eggs, used to coat food prior to frying

battlemat A large (40–80 lb), round, Swiss or Italian cheese similar to, but softer than, emmentaler

battuto A mixture of onion, garlic, celery, and parsley, cooked in oil and flavored with bacon and used to make soups or stews

batura A flat, fermented, deep-fried, wheat bread

batzi Apple brandy

bauden (koppfen) A low-fat, high-protein, hand-molded, semisoft, conical or cylindrical cheese made from sour goat's milk

bauernbratwurst A moist, cooked or uncooked, unsmoked Swiss sausage made from medium- or coarse-chopped, medium-seasoned beef and pork (e.g., pepperoni) stuffed into a beef or pork casing

bauernfleischkäse A moist, cooked, unsmoked Swiss sausage made from medium-chopped, medium-seasoned beef and pork stuffed into an artificial casing

bauernsalami 1) A dry, uncooked, smoked, fermented, Swiss sausage made from medium- or coarse-chopped, heavily seasoned beef and pork stuffed into a beef, pork, or artificial casing. 2) A dry, uncooked, smoked, East-German sausage, made from medium-chopped, medium-seasoned beef and pork, that is fermented and stuffed into a beef or artificial casing

bauernschinken A farmer-style, boneless, dry-cured ham made from the top and bottom round of the ham and given a heavy smoke

bauernschublig A dry, uncooked, smoked or unsmoked, Swiss sausage, made from medium- or coarse-chopped, heavily seasoned, beef and pork, that is fermented and stuffed into a beef, pork, or artificial casing

baulus A bread, made from rice and wheat flour, that is high in eggs and fat and contains dried grapes and other fruit

Baumé (Bé) A scale used to measure density of a liquid; the specific gravity at 60°F corresponds (not same value) to degree Baumé; it represents about one-half of the solids content

See Part 2: Brine, Meat Curing; Salt, Brine; Salt, Brine Table; Sugar Solutions

bauxite (Al_2O_3) Raw material from which aluminum sulfate is manufactured

Bavaria blu A blue-mold, high-fat, semisoft cheese

Bavarian cream A sweet, soft egg custard, containing folded gelatin and whipping cream, that can be flavored with many different things

Bavarian cream pie Composition: 71–78 mg Na/ $\frac{1}{8}$ pie (82 g)

Bavarian smoked A processed, cow's-milk cheese that is smoked

bavaroise A vinegar, horseradish, and nutmeg-flavored sauce used on seafood

bawarsua A moist, cooked, Polish sausage made from finely or coarsely chopped, medium-seasoned beef and pork stuffed into an artificial casing

bay An inlet of water; a section of a barn; the bark of a dog; light red color in horses; an evergreen tree of the laurel family whose leaf has a very aromatic flavor and is used with meat, fish, poultry, soups, stuffing, and pickling solutions See *bay leaf*
See Part 2: Essential Oils; Spices, Microbial Content

bayberry Popular name for shrubs of the species of the genus *Myrica*, also called candleberry and wax myrtle; used for flavoring (e.g., sweet bay) or seasoning and to make dripless candles. Bayberry trees (family Myrtaceae) are used to make rum.

bay leaf (laurel; sweet bay; *Laurus nobilis* L.; *Pimenta acris* kostel) Dried leaves from an evergreen tree used as an herb; dark green, wavy-edged leaves (2-4 in. long); they are very aromatic when crushed. Available both fresh or dried (whole, fancy, cracked, crushed, and medium-fine grind); from Turkey

Composition: moisture 5-6% (8% max.); volatile oil 0.8% v/w min.; protein 7-10%; fat 8-9%; carbohydrate 74%; fiber 26-27%; ash 3-4%

Used in or with chicken, fish, meat, pickling, potatoes, rice, soups, stews, stuffing, and tomato dishes

bay oil See *myrcia*

bayonne ham A country-cured (in brine with red wine, olive oil, and rosemary) style, lightly smoked, pork ham produced in the Basque area of France and Spain

bay salt Rock salt

bay smelt See *smelt*

bazari An 80-85% extraction wheat flour bread

BBB Bed, breakfast, and bath

bbl Barrel

BC 1) Before Christ. 2) Beef casing

BCF Bureau of Commercial Fisheries

B-compound A paraffin wax used as a lubricating film

BCP-D agar See *agar-agar*

See Part 2: Microorganism, Media

BDG broth See Part 2: Microorganism, Media

Be Symbol for the element beryllium

Bé See *baumé*

-be Suffix meaning life

bead A rounded depression

beaded can A can that is strengthened by concentric depressions or reinforcing ribs around the body

bead molasses (brown sauce) Trade term for a sweet sauce made from brown sugar, salt, soybean, water, and wheat flour; used for flavoring and coloring in baked beans, chop suey, chow mein, dark breads, ginger cookies, and oriental dishes

bean (pulse; *Phaseolus vulgaris*) A (leguminous) vegetable food, the dried seeds of which are also used as food; the green (unripe) seed (several are contained in a pod), the pod (immature), and the dry seeds are used as a high-protein food; often served cold in salads or as a relish and can be marinated in oil and vinegar. Other closely related genera are sometimes called beans (e.g., black-eyed peas, soybeans)

4 servings = 1.5 lb

Grades are based on the following:

Brightness of color (bright, uniform color)

Uniformity of size (even cooking)

Visible defects (cracked seed coat, foreign material, or insect pinholes)

Storage: 32°-45°F (refrigerator crisper or plastic bags); relative humidity 90%; freezing temperature 30°F; pH 5.0-6.0; use within 3-5 days.

See Part 2: Beans, Dry, Cooking; Beans or Peas Planting Guide; Beans, Peas, and Lentils Label; Beans, Peas, and Nuts; Calories, Daily Recommendations; Canned Spoilage Related to pH; Canned Yield; Food, Composition; Frozen Food Storage; Fruit and Vegetables, Composition; Iron; Iron, Daily Recommendations; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Minerals, Food; Niacin; Niacin, Daily Recommendations; Nicotinic Acid, Food; Nitrate, Vegetables; Nutrients in Crop; Organic Acids in Fruits and Vegetables; Pentosans; Phosphorus; pH Values of Biological Materials; Plant Foods; Composition; Planting Density; Portion Size; Protein Factors; Pulses, Nuts, and Seeds, Composition; Riboflavin; Riboflavin, Food; Seed, Chemical Composition; Seed, Germination; Soups, Composition; Standards, Processed Fruit and Vegetable Products; Storage; Storage, Dry; Storage Times; Sugar, Legumes; Thiamin; Thiamin, Daily Recommendations; Transit Temperature; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetables, Panned; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin A, Food

bean, adsubi (*Phaseolus radiatus*) An edible bean grown in the Mississippi valley

bean, adsuki (*Phaseolus angularis*; *Vigna angularis*) A bean native to the orient used for food

bean aphid (*Aphis fabae*) An insect that feeds on beans, peas, beets, and chard; dark olive-green to black in color

bean, asparagus (blackeye bean; Cuban bean; yard long bean; *Dolichos sesquipedalis*; *D. unguiculatus*; *Vigna catjang*; *V. sesquipedalis*) A kidney-shaped, red or yellow-brown bean contained in 1- to 2-ft long pods produced on a pole-type of cowpea

Variety	Season	Plant	Used
Orient Express	145 days (planting-out to harvest)	Pole	Steamed, lightly boiled, stir-fried, fresh, frozen

bean, Australian See *bean, black*

bean, baked Styles (canned): in molasses sauce; in pork; with brown sugar; with pork and molasses; with pork and tomato; with tomato sauce
1 cup = 7.7-9.2 oz

bean, beautiful See *pea bean*

bean beetle See Part 2: Insect Control

bean, bird's-foot See *bean, black-eyed*

bean, black (Australian bean; Moreton Bay chestnut) 1) An Australian tree that produces 3-4 edible

64 bean, black (Australian bean; Moreton Bay chestnut)

chestnutlike seeds per pod; roast before eating. 2) Black turtle soup bean—A pungent, preserved, salty soybean, often seasoned with garlic; a rich-flavored legume grown in the South and used in thick soups and in oriental and Mediterranean dishes

1 pound of dry black beans = 2.5 cups

See **bean, urd**

bean, blackeye (bird's-foot bean; blackeye pea; cowpea) A cream-white, oval-shaped bean with a black spot where the bean was attached to the pod

bean, black, soup, canned

Composition	Condensed	Condensed, prepared with water
Moisture (%)	75.3	87.3
Protein (%)	4.8	2.3
Fat (%)	1.3	0.6
Carbohydrate (%)	15.4	8.0
Ash (%)	3.1	1.5

bean, Boston style Composition: 606 mg Na/cup (260 g)

bean, broad (faba; fava bean; field bean; flava bean; horse bean; longpod; Scotch bean; shell bean; Windsor bean; Vicia faba) A hardy bean that prefers a neutral or alkaline soil and a cool climate; 17/oz seed; 7–10 days germination period; thin to 6 in. apart in rows 24 in. apart. Pods are large and thick and often grow to 15-in. length and contain large, flat, angular seed; young pods can be eaten.

Varieties:

Bunyard's Exhibition

Early Longpod

Green Longpod

Green Windsor

Harlington White

Masterpiece

Saville Longpod

1 cup, canned, drained = 5 oz

See **bean, fava**

bean, butter A large, white bean. The name is also used for soya bean. See **bean, lima**

bean cake Sufu soybean curd

bean, Chartres A brown variety of bean

bean, chevrier A green variety of bean

bean, chili (red; Mexican) An oval, slightly flattened, maroon bean that is slightly longer than the pea bean

bean, civet See **bean, butter**

bean, coco (Phaseolus vulgaris) A blue- to purple-podded French bean that changes to green when cooked; may be used as a green or dried bean

bean, Congo See **cajun**

bean, cranberry A pink-marked bean

bean, crickshaw lima See **jack bean**

bean, Cuban See **bean, asparagus**

bean curd See **tofu**

bean curd cheese Sufu soybean curd

bean, dry A bean grown for mature seed and dried to below 4% moisture; spacing 4–8 in.; harvest when pod is full.

To dry: Pick when mature and spread out in a warm, dry place until dry or, after pods are ripe, pull and dry bean plants like hay. To protect after drying, refrigerate at 0°F or lower for 4 days or heat in an oven at 180°F for 15 min, and leave in oven for 1 h after heat is turned off.

Soaking: Simmer for 2 min; let stand 1 h or overnight.

To cook: Add 1 tsp salt to 1 cup dry beans and cook until tender or pressure-cook 3–10 min; baking soda (alkali) is often added ($\frac{1}{4}$ tsp to 1 pt water) to soften beans, but it lowers B-vitamin content and produces a soft texture. Soaking-water temperature of 120°F for 6 h will produce 100% increase in weight. Cooking will produce additional 50% gain in weight. Use 1 cup beans/4 cups water for both soaking and cooking.

Types: pea (navy), pinto, great northern, kidney, lima, butter bean, haricot

Colors: white, red, pinto (mottled), black, brown

100 lb, fresh-11–13 lb, dry beans

1 bu = 60 lb

1 lb, dry = 11 servings

= 2–2.5 cups

= 2–6 cups, cooked

Composition: moisture 8–13%; protein 22%; fat 1.5%; carbohydrate 61%; ash 4%

Storage (dry): tightly closed container, 50–70°F; dry; do not mix with older product; storage life 1 yr

Storage (cooked): in refrigerator 1–4 days; frozen 1 mo

bean, Dutch A brown variety of bean

bean, fava (broad; broad bean; faba; horse; Windsor) A large (1 in.), tough-skinned, greenish brown bean with a distinctive flavor. Similar to lima beans except that fava beans are globular in shape. When immature, the pods can also be eaten. Some people are allergic to this bean. See **bean, broad**

Variety	Season	Plant	Pod	Bean	Use
Broad Windsor Long Pod	65	Upright	Long		
Long Pod	85	Bush	Inedible, green, 7 in.	5–7/pod, long, flat, light green	Green, shell

bean, Chinese See **bean, urd**

bean, Chinese long See **Chinese long bean**

bean, field Applies to several kinds of shelled and dried bean, including French haricots, navy bean, red kidney, Spanish frijoles, and white marrowfat

Type of green bean	Distance between plants	Distance between rows	Seed per 100-ft row	Days to harvest	Yield per 100-ft row
Bush (less space)	3 in.	2 ft	12 oz	40	2 bu
Pole (climbing vine)	2 ft	30 in.	12 oz	60-100	3 bu

bean, flower or fire (*Phaseolus multiflorus*) A kidney bean

bean, French (kidney bean; snap bean; string bean; wax bean; wax-pod bean; *Phaseolus vulgaris*) The most common form of green bean that is grown for its immature pod. The kidney-shaped bean can be eaten in the pod green (snap bean) or it can be dried (shell bean). It is smaller and more delicate than the snap bean. 40 seed/oz; germination period is 5-10 days

bean, frijole (Spanish frijole) A small, flat, kidney-shaped bean contained in an inedible pod; grown in Mexico and southwestern United States

Varieties:

Bagou
Red Indian

bean, garbanzo (ceci pea; chick pea) Grown on a pealike plant with one or two large irregular-surfaced beans per pod. Nut-flavored and commonly pickled in vinegar and oil for salads. Similar beans are cranberry and yellow-eye beans

bean, garden Beans grown for immature edible pods. Green pod varieties:

Bush—Bountiful, Stringless Green Pod
Pole—Kentucky Wonder, Rust Resistant Kentucky Wonder

Wax or yellow pod varieties:

Bush—Stringless Wax, Yellow Bountiful
Pole—Golden Cluster Wax, Kentucky Wonder Wax

bean, goa Indian trailing bean used like kidney beans

bean grades (edible) U.S. Grades 1, 2, 3; hand-picked grades: U.S. No. 1 choice handpicked; U.S. No. 1 handpicked; U.S. No. 2 handpicked; U.S. No. 3 handpicked

bean, great northern A bean that is larger than, but similar to, pea beans; used in soups, salads, casserole dishes, and home-baked beans

Variety: Montana White, season 90 days

The highest grade is U.S. No. 1 choice handpicked or handpicked

1 cup, raw = 6.2 oz

1 cup, cooked = 6 oz

bean, green (kidney bean; snap bean; snap (string); snap (stringless); string bean) Applies to a wide range of beans that are moderately mature but not dried, usually eaten with pod.

Varieties (stringless):

Flat
Round (refugee)

Terminology: The beans are called string (there are now stringless varieties), snap, pole, or bush beans when fresh and green or wax (waxy yellow color) beans when canned or frozen.

Varieties (green):

Blue lake (canning and freezing)
Italian (Romano) (large flat bean)

In canned beans, the smaller and younger the bean, the higher the grade.

Canned and frozen styles:

Asparagus—long beans all the same length placed lengthwise in the can

Cut bean—cut (sliced crosswise) into 1-in. pieces

Diced

French (julienne, shoestring, slivered)—cut lengthwise

Kitchen cuts (home cuts)—cut diagonally

Short cut

Sliced

Whole beans—only the ends removed, often packed vertically in can; if they are all about the same length, they are called whole asparagus-style

Refuse (from fresh beans 7%):

1 bu, fresh = 24-40 lb
= 12-22 qt, canned

4 lb whole = 4 qt
= 7-8 pts dilled

1½-2 lb, fresh = 1 qt canned

1 lb, fresh = 3 cups
= 2½ cups, cooked

1 cup, fresh = 115 g (4 oz)

1 cup, 1-in. pieces = ¼ lb

1 cup, bias-sliced 1-in. pieces = 0.25-0.33 lb

1 cup, cooked = 125 g (4.4 oz)

1 part freeze-dried wt. = 14 parts fresh wt.

Size	Thickness
1	Less than $\frac{29}{128}$ in.
2	$\frac{29}{128}$ in. but not including $\frac{36}{128}$ in.
3	$\frac{36}{128}$ in. but not including $\frac{21}{64}$ in.
4	$\frac{21}{64}$ in. but not including $\frac{24}{64}$ in.
5	$\frac{24}{64}$ in. but not including $\frac{27}{64}$ in.
6	$\frac{27}{64}$ in. or more

Composition: moisture 90%; protein 2.2%; fat 0.2%; carbohydrate 7%; ash 0.7%; fiber 2.4%; 925 mg Na per canned cup, 110 mg Na per fresh cup; pH 4.6-5.2
Storage: leave in pod at 45°F, 85-90% relative humidity; will last up to 8 days

See **bean, snap or wax**

bean, green shell A bean growth for the immature pod

bean, guar (cluster bean; *Cyamopsis tetragonoloba*) a drought tolerant legume grown for seed and forage

bean, haricot (butter bean; flageolet; navy bean; soissons; *Phaseolus vulgaris*) 1) The seed of any bean plant. 2) Dwarf French bean grown for dried

66 bean, haricot

seed and not for pods; 40 seed/oz and 5–10 days germination period; dried seed grown for that purpose; can be eaten fresh but is usually dried.

Variety	Season	Pod
Comtesse de Chambord	100 days	Short

bean, horse See bean, broad; bean, sword

bean, horticultural A term often used to identify beans grown for their immature pods (snap beans) or for their ripe seed (field beans)

Varieties:

Bush—dwarf horticultural, French horticultural
Pole—cranberry, horticultural

bean, hyacinth (lablab; *Dolichos lablab*) A tropical bean with edible pods and seed

bean, India See bean, urd

bean, jack (*Canavalia ensiformis*) Composition (seed): dry matter 91%; protein 31–34%; fat 2%; fiber 11%; nitrogen-free extract 50%; ash 3%; (plant) protein 11%; (silage) protein 10.6%

See bean, sword; jack bean

bean, Jacob's cattle A fine-grained, spotted and speckled bean

bean, Kentucky Wonder A variety of pole bean

bean, kidney (field bean; French bean; frijole; haricot; *Phaseolus vulgaris*; *P. coccineus*) A common kidney-shaped bean that is often dried. A legume originally from Central and South America that produces an edible [but more frequently inedible (tough)] 6-in. pod; today the bean is usually red; 95 days to dry-shell stage. In American usage, the term is applied to a large, red-brown, kidney-shaped field bean of distinctive flavor. In other usage, it sometimes designates the entire range of species of beans. Usually, it designates a large, dark red bean, with a distinctive flavor, that is used in baked dishes (often used for baked beans), is boiled in soup and chili con carne, in salads, and in many Spanish and Mexican dishes. It is often canned with sauce, honey, sugar, bacon, and/or pork.

Variety: California Red Kidney produces a large, red, kidney-shaped bean.

Canned styles available:

Clear salt brine

Sweetened sauce

Pods are sickle-shaped, 10–15 cm long, containing 5–20 beans. Dry bean color may be white, pink, red, speckled, brown, or blue-black. Dry bean size 20,000–60,000/kg

Composition (dry): protein 20–25% (deficient in methionine and cystine but rich in lysine and tryptophan); fat 2%; carbohydrate 50%; moisture 10%; pH 5.7

To rehydrate, combine 40 lb dry beans, 40 lb water, and 1 lb salt.

Composition (cooked): fiber 3.6%

1 lb, dried = 2½ cups

= 12 cooked servings

= 5½ cups, cooked

1 cup, dry = 185 g (6.5 oz)

1 cup, cooked = 185 g (6.5 oz)

1 cup, canned, with solids and liquid = 9 oz

1 cup, canned, drained solids = 8.4 oz

See bean, French; bean, green

bean, kotenashi A small, white, dried (sometimes canned) bean

bean, lablab (*Lablab vulgaris*) A short, broad, thick bean with white on one edge. Pods and leaves are sometimes consumed. See bean, hyacinth

bean, lima (butter; civet; sieva; *Phaseolus limensis*; *P. lunatus* var. *macrocarpus*) A common bean that has a flat seed that is used for food; originally from Central and South America; called butter beans in the South; should be harvested as soon as the beans are fully formed. Often canned in tomato sauce with pork or meat flavoring. The beans may also be dried.

Type	Distance between plants	Distance between rows	Seed per 100-ft row	Days to harvest	Yield per 100-ft row
Bush	10 in.	30 in.	12 oz	110	2 bu
Pole	3 ft	3 ft	12 oz	110	2 bu

Colors: white, yellow, brown, mottled, green (youngest)

Types:

Fordhook (variety)—large, thick bean

Large

Small (butter bean, baby lima)—small, thin bean with less starch

Speckled butter bean (large bean)—green, pink, red, lavender, and purple with brown and purple speckling

Trade names:

Baby—small bean

Butter—small bean

Potato—large bean

Pods are picked after seeds are enlarged but before pods turn yellow and are shelled prior to cooking.

To cook: Boil shelled bean (never eaten in pod) 20–30 min or until tender

The highest grade for large and small lima is U.S. extra No. 1

Grades of canned:

Baby (tiny, midget)—small, light green immature beans

Green—larger

Green and white—largest size, 60% mature green and 40% mature white

pH 5.9–6.5

Seed 50–75 lb/acre

Composition	Raw immature seed	Dried mature seed
Moisture (%)	67	10
Protein (%)	8	20
Fat (%)	0.5	1.5
Carbohydrate (%)	22	64
Ash (%)	2	3.6
pH	6.5	—

Refuse (green): 50–55%

1 lb, shelled = 2 lb, unshelled

Type	Size	Variety	Flavor	Use	Pod	Bean	Season
Fordhook (Potato type), thick or large seed, true lima	Bush (dwarf)	Burpee's Bush Burpee's Improved	Good		5 × 1 in., slightly curved	4-5 per pod; large, flat oval	75 days
		Fordhook-242	Good	Fresh, frozen, canned	4.5 × 1 in., dark green	4-5 per pod; large	Mid season, 75 days
	Pole	Burpee's Best	Rich, tender	Fresh, frozen	4.5 × 1.2 in.	4-5 per pod	92 days
		Burpee's Improved Giant Podded Fordhook Pole Improved Challenger					
		King of the Garden	Good	Fresh, dried, frozen	5 × 1 in.; smooth, flat	3-4 per pod	88 days
		Prizetaker	Excellent	Fresh, frozen	6 × 1.5 in.	3-5 per pod	90 days
Baby (Henderson), small-seeded	Bush (dwarf)	Allgreen Baby Fordhook	Good		2.5 × 0.75 in.	3-4 per pod, dark green	70 days
		Bridgeton Dixie Butterpea	Good Very good			Carmine- speckled seeds	65 days 76 days
		Early Thorogreen	Very good	Fresh, frozen, canned, dried			67 days
		Henderson	Good	Shelled, canned, dried	2.75 × 0.75 in.	3-4 per pod; green, white when dry	67 days
		Jackson Wonder			3 in., dark green	Speckled	
		Nemagreen Thaxter					
	Pole	Carolina or Sieva (butter bean)		Dried, fresh	3.5 in.	3-4 per pod med. green, dried, white	78 days
		Florida Speckled Butter	Very good	Shelled, dried, canned, frozen		Speckled	68 days

In pod:

1 bu, fresh = 28-35 lb
 = 6-10 qt, canned
 = 12-16 pt, frozen
 1 lb, fresh = 2-3 servings
 = 0.33 lb shelled beans
 = 0.7-1 cup shelled beans

Shelled:

1 bu, dried = 56 lb
 1 lb, dried = $2\frac{1}{2}$ cups
 = $5\frac{1}{2}$ cups, cooked
 = 11 servings
 1 qt, canned = 2-5 lb, fresh
 = 3-4 qt, fresh

68 bean, lima

Shelled (cont)

- 1 qt, frozen = 4-4.5 lb, fresh
- 1 lb, fresh = 2 cups
= 6 servings
- 1 lb, canned = 3-4 servings
- 1 pt, frozen = 2-2.5 lb, fresh
- 9-10 oz, frozen = 3-4 servings
- 1 cup, fresh = 155 g (5.5 oz)
- 1 cup, dried = 180 g (6.3 oz)
- 1 cup, boiled, drained = 6 oz
- 1 cup, canned, solids and liquids = 8.8 oz
- 1 cup, drained solids = 6.2 oz
- 1 cup, frozen, boiled and drained = 6 oz
- 1 cup, dried, baby = 6.4 oz
- 1 cup, dried, large = 6.2 oz
- 1 cup, dried, boiled and drained = 6-8 oz
- 1 serving = 0.5-0.75 lb, fresh, in pod
= 0.5 cup, fresh, shelled

Storage: Leave in pods; refrigerate 32-40°F; 85-90% relative humidity; use within 1-15 days; frozen (0°F) storage life 12 months.

See Part 2: Beans or Peas Planting Guide; Planting Density; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

bean, lima, dry To dry, pick when mature and spread in a warm, dry place till dry or, after pods are ripe, pull and dry bean plants like hay. To protect after drying, refrigerate at 0°F or lower for 4 days or heat in oven at 180°F for 15 min and leave in oven for 1 h after heat is turned off.

1 lb, dry = 10 cooked servings

Storage: cool (32-40°F), dry place; storage life, many years

bean, locust (algarroba; carob; caroube) A shrub that produces long pods containing many seeds

bean, long pod (*Aquadulce claudia*) Varieties:

- Colossal
- Exhibition Long Pod
- Fenland Wonder
- Imperial Green
- Johnson's Wonderful
- Longfellow, Heavy Cropper
- Masterpiece Green Longpod
- Red Epicure
- Seville Long Pod
- White Longpod

bean, Madagascar butter A large, white lima bean that is often canned

bean, marbled cap kidney A variety of variegated lima bean

bean, mat *See* bean, moth

bean, moth (*Phaseolus aconitifolius jacq*) An edible bean grown in India

bean, mottled lima A variety of variegated lima bean

bean, mung (Chinese bean; golden gram; green gram; *Phaseolus aureus*; *P. mungo radiatus*; *Vigna radiata*) A small, round, green bean that is used to produce bean sprouts [harvested when sprouts are 50 mm long (3-5 days)] or that is boiled whole or split or is ground into a floury meal. It also is used as a green manure crop. Sprouts used in chop suey and salads. 700 seed/oz

Variety: Berken, 2-5 days to sprouts; 90 days to maturity as a seed crop

Types:

- Golden
- Green (used for sprouting)
- 1 cup = 7.4 oz

bean, navy (common bean; pea bean) White seed variety of kidney bean; a broad term that includes many varying shapes and sizes:

- Flat small white bean
- Great northern bean
- Pea
- Small white bean

Often used for baked beans

Types:

- Smallest
- Small California
- Michigan (faster cooker)
- Largest—large California

Variety	Season	Bean pod	Bean
White Marrow	100 days	5 in., flat, straight	5-6 per pod; large
White Wonder	85 days	Large, uniform	

- 1 lb, dried = 2 $\frac{1}{3}$ cups, dried
= 5 $\frac{1}{2}$ cups, cooked
= 10 cooked servings

1 cup, raw = 7.4 oz

1 cup, dried = 190 g (6.7 oz)

1 cup, cooked = 190 g (6.7 oz)

Composition: dry matter 89%; protein 22.6%; fiber 4.5%; fat 1.3%; ash 4.7%

bean, New Guinea Twenty- to 30-ft vines produce 3- to 5-ft pods, weighing up to 15 lb, that are cooked like squash or fried like eggplant.

bean, oea (black-eye pea; cow bean) A small, white pea with a black spot

bean, otenashi (*Phaseolus vulgaris*) A small, white, dried bean

bean, pea (*Phaseolus vulgaris*) A climbing French bean that has a small, round or oval, white seed used for home-baked beans, soups, and casseroles; the beans hold their shape even when cooked.

1 cup, raw = 7.4 oz

1 cup, cooked = 6.8 oz

bean, phasey (*Macroptilium lathyroides*) a tropical annual legume often grown in mixed culture and used for forage

bean, pink A pink bean related to the kidney bean and used in Mexican dishes and chili; more delicately flavored than the red beans

bean, pinto (frijole) A flat, dappled (white or buff and brown spotted) pink bean (legume) that is the same species as the kidney and red beans but is larger and more tender and cooks more easily than the pea bean; used as a green shell or dried bean (85 days to dry-shell stage). Medium to large bean that is used in salads and chili and as a dried soup bean. Pods are 5 in. long with 5-6 beans per pod. There is a tawny variety that is drought resistance. The highest grade is U.S. No. 1 choice handpicked or handpicked.

1 cup, dry = 6.8 oz

bean, pole A type of bean that is tall and climbing

bean pork Square-shaped, fatty bacon, back fat, or fresh jowls cooked with beans

bean, prairie (*Phaseolus retusus*) An edible bean grown in the western United States

bean, Rangoon A red variety of lima beans

bean, red A red bean related to the kidney bean and used in Mexican dishes and chili; less-delicate flavor than pink beans

bean, rice (*Phaseolus calcaratus*; *Vigna umbellata*) An edible, Asian, green pole bean related to the adzuki bean

bean, runner (scarlet runner; string bean; *Phaseolus multiflorus*; *P. coccineus*) A large, perennial bean that is cooked when green; most varieties produce scarlet flowers but some produce white or red and white flowers; 30–40 seed/oz; 7–10 days germination period

beans Seeds of leguminous plants

bean, saber See bean, sword

bean, Santa Maria Pinquito A bush-type bean that has tiny, pink beans that are dry-shelled for baking. They are low in starch and do not break during cooking.

bean, scarlet runner (multiflora bean; stick bean; *Phaseolus coccineus*; *P. multiflorus*) Primarily an ornamental climber (15 ft) but pods (5 in. long with 3–5 seeds) are edible when young and green; dry seeds (brown, red, or black) are also shelled and used as food. See **bean, runner**

bean, Scotch See bean, broad

bean, shell See bean, broad

bean, sieva (*Phaseolus lunatus*) A small variety of lima bean that stays green when dried See **bean, lima**

bean, snake See bean, sword

bean, snap (common bean; *Phaseolus vulgaris*) A term applied to the immature pods (3–6 in. long) of various kidney beans; immature beans (if pods are lumpy, beans should be shelled); string bean See **bean, French**; **bean, green**

1 cup, fresh = 3.6 oz

1 cup, fresh, French style = 2.8 oz

1 cup, cooked = 4.4–4.8 oz

1 cup, canned, solids and liquid = 8.2 oz

1 cup, canned, drained solids = 5 oz

1 cup, frozen, boiled, drained = 5.6 oz

See Part 2: Beans or Peas Planting Guide; Planting Density; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

bean, snap, green or wax (stringless or string bean) Green and wax are different only in color.

Bush bean—5 plants per foot in rows 18 in. apart

Pole bean—thin to 3 plants per pole with poles 3 ft apart

bean, snap or wax (yellow-podded; *Phaseolus vulgaris*) A term applied to immature beans; one of several beans known as common bean; dry seeds are sold as dried horticultural-type, kidney (white or red), marrow, navy (white), or pinto beans, depending on variety. They may be stringless or string bean. Green and wax are different in color.

Type	Variety	Seed color	Pod	Use	Season
Bush, green	Astro	White		Fresh, frozen	57 days
	Avalanche	White	6 in.; round, long, stringless	Fresh, frozen, canned	54–60 days
	Blue Lake				
	Bountiful		6.5 in.; flat, green, stringless	Fresh, canned all-purpose	50 days
	Commodore (Bush Kentucky Wonder)	Wine-red	6.5 in.; long, narrow	Frenched	52 days
	Contender	Buff	6.5 in.; thick, oval, slightly curved		40 days, extra early
	Early Harvest				
	Executive				
	Extender				
	Greencrop	White	7 in.; flat, wide, green, stringless	Garden, frenched	42–55 days
	Harvester		5.5 in.; smooth, round, straight	Fresh, shipping	50 days
	Improved Tendergreen		6.5 in.; smooth, round, dark green, no fiber, stringless	Canned, frozen	45 days
	Lika Lake				
	Old Dutch Half Runner	White			
	Orbit				

(Continued)

70 bean, snap or wax (yellow-podded; *Phaseolus vulgaris*)

Type	Variety	Seed color	Pod	Use	Season
Bush, wax	Provider		5 in.; med. green, round, straight	Frozen, canned	50 days early
	Roma	White	4.5 in.; flat, green	Canned, frozen, fresh	59 days
	Romano (Italian)	Buff seeds with white eye	5.5 in.; flat, med. green, stringless	Garden, canned, frozen	50-65 days
	Roundup				
	Royalty Purple		Purple	Frozen	51 days
	Spartan Arrow	Light buff	6 in.; oval, straight	Garden	42-52 days
	State White Half Runner		4 in.; stringless	Frozen, canned	52 days
	Stringless Green Pod			Fall crop	50-60 days
	Tendercrop		5 in.; dark green, round, straight	Fresh, canned, frozen	46-55 days
	Tenderette	White	6 in.; stringless	Fresh, frozen canned, dried	55 days
	Tendergreen	Brown buff with purple mottling	Stringless	Home, market, canned	50-60 days
	Tenderpod		5 in.; green, stringless	Fresh, canned, frozen	50 days
	Top Crop	Mottled brown	6 in.; med. green, straight, round stringless	Fresh, canned, frozen, market	43-51 days
	Brittle Wax		6.6 in.; yellow, round	Fresh, frozen, canned	52 days
	Cherokee	Black	6 in.		50 days
	Gold Cup				
	Goldcrop	White	6 in.; round, straight deep golden	Fresh, canned	45 days
	Golden Wax Improved (pod golden yellow)	White	6 in.; round, stringless, shiny, yellow	Fresh, frozen, canned	50 days
	Midas				
	Moongold		5 in.		55 days
	Pencil Pod		5.5 in.; round, sl. curved, stringless, yellow		45-54 days
Pole, runner, climbing	Resistant Kinghorn	White	6 in.; smooth, round, stringless, yellow	Canned, frozen	45 days
	Surecrop Stringless Wax (Yellow Bountiful)		6 in.; flat, yellow		52 days
	Blue Lake	White	6 in.; dark green, round, stringless, straight	Fresh, canning, freezing, dry	60 days
	Burpee Golden		6 in.; wide, flat, yellow		60 days
	Dale				
	Kentucky Wonder, Green (Old Homestead)	White or brown	9 in.; round, silvery-green, stringless	Fresh, canning, freezing	58 days
	Kentucky Wonder, Wax	White	9 in.; stringless, yellow		61 days

(Continued)

Type	Variety	Seed color	Pod	Use	Season
	Romano (italian pole)		6 in.; wide, stringless	Market, freezing	
	Scarlet Runner		6 in.; green	Cooked	65 days
	Selma-Zebra (pod green, striped blue)			Fresh, dried, frozen	
	Violet Podded Stringless		8 in.; blue, turns green on cooking	Freezing, fresh	

Grown for	Called
Immature pods	French beans Garden beans Green beans Snap beans String beans
Immature seed	Green shell beans
Mature seed	Dry beans

60–100 seed/oz; seed 50 lb/acre; spacing, bush, 5 plants/foot in rows 18 in. apart; Pole, thin to 3 plants per pole with poles 3 feet apart.

Varieties of stringless:

Flat

Round (refugee)

Refuse: 10% ends and strings

1 ton, fresh = 100 cases (24) No. 2 $\frac{1}{2}$ cans

1 bu = 30 lb

= 15–20 qt, canned

1 $\frac{1}{2}$ –2 $\frac{1}{2}$ lb fresh = 1 qt, canned

1 $\frac{1}{2}$ –2 lb, fresh = 1 qt, frozen

1 lb, fresh = 4–6 cooked servings

16 oz, canned = 3–4 servings

1 serving = $\frac{1}{5}$ – $\frac{1}{4}$ lb

Used whole, split, sliced, or chopped

Cook: boil 10–15 min or until tender

Storage: Do not wash; sprinkle with a few drops of water, place in a plastic bag, and refrigerate at 45°F; 85–90% relative humidity; 8–10 days storage life; frozen (0°F) storage life 8 months

bean, soldier A large 89 day, white, kidney bean with brown markings; grown in Maine. Good for stew and baked beans

bean soup A soup prepared with beans and pork

bean, soy A bean that is high in protein and fat but low in starch

bean, soya (*Glycine max*; *G. hispida*; *G. soja*; *Soja hispida*) Available in several varieties: black; green; yellow. Soak 30 min before boiling.

bean sprout (**salad sprout**) Sprouts (1–2 in., 4–5 days old) from soya or mung beans; available canned or can be sprouted by consumer; used to add crispness in Oriental dishes, sandwiches, salads, soups, and stews and as a vegetable

1 cup, raw = 3.2–3.8 oz

1 cup, boiled, drained = 4.4 oz

See Part 2: Vegetable Composition, Part I

bean, stick See **bean, scarlet runner**

bean, string A bean that is grown for immature pods
See **bean, French**; **bean, green**

bean, sword (**horse bean**; **jack bean**; **saber bean**; **snake bean**; *Canavalia ensiformis*) A long (20 in.) bean that when young is eaten like green beans and when mature is roasted as a coffee substitute

bean, tepary (**frijole**; **pinto**; *Phaseolus acutifolius* var. *latifolius*) An early-maturing, small-shelled, bush-type, dry-land, kidney haricot bean used primarily for shelled dry seed (white, brown, yellow, or spotted) See **bean, kidney**

bean thrip (*Caliothrips fasciatus*) A bean pest that can also affect pears

bean, tonka (**coumara nut**; **tonqua**) A South American tree that produces aromatic seed from which an essential oil known as coumarin (coumarine, coumarouna) is obtained; sometimes used as an imitation vanilla

bean, urd (**black bean**; **black gram**; **Chinese bean**; **India bean**; *Phaseolus mungo*) An Asian bean that is used to grow bean sprouts or is crushed to prepare papad See **black gram**

bean, velvet (**Bengal bean**; *Mucuna pruriens*; *Stizolobium deeringianum*) An ornamental bean that grows up to 20 ft in length; similar to the white haricot bean See **velvet bean**

bean, wax A green type of bean with yellow or golden immature pods and used like green beans
Canned or frozen styles:

Whole (often packed vertically in a can)—if about the same length, they are called asparagus-style
French (julienne or shoestring)—sliced lengthwise

Cut (short cuts)—sliced crosswise

Kitchen cuts (home cuts)—cut diagonally

1 bu, fresh = 30 lb

= 30–45 pt, frozen

1 pt, frozen = 0.7–1 lb, fresh

1 cup, boiled, drained = 5.8 oz

1 cup, canned, solids and liquids = 8.4 oz

1 cup, canned and drained = 4.4 oz

bean weevil See **pea weevil**

bean, white The mature beans are dried and used as food; the largest to the smallest are great northern, large white, medium white, pea or navy, and small white

Canned styles:

Boston, Boston style, New England, New England style—molasses

Plain sauce—salt, spices, sugar and/or molasses, caramel, and sometimes onion and/or vinegar

72 bean, white

Plain sauce and pork
Tomato—tomato pulp, water, sugar, spices
Tomato and pork
1 bu, dry = 60 lb

bean, Windsor Available in several varieties: Beck's Dwarf; Dwarf White Gem; Green Windsor; Sutton
See **bean, broad**

bean, wing Has a large, crunchy pod; the whole plant is edible.

bean with bacon, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	70.2	84.2
Protein (%)	5.9	3.1
Fat (%)	4.4	2.3
Carbohydrate (%)	17.0	9.0
Fiber (%)	1.3	0.6
Ash (%)	2.6	1.4

bean with bacon, dry soup

Composition	Dehydrated	Dehydrated, prepared with water
Moisture (%)	4.0	89.7
Protein (%)	19.4	2.1
Fat (%)	7.6	0.8
Carbohydrate (%)	57.7	6.8
Fiber (%)	5.4	0.6
Ash (%)	11.3	1.2

bean with frankfurters, canned soup

Composition	Condensed	Condensed prepared with water
Moisture (%)	67.7	83.0
Protein (%)	7.6	4.0
Fat (%)	5.3	2.8
Carbohydrate (%)	16.7	8.8
Fiber (%)	1.3	0.6
Ash (%)	2.6	1.4

bean with ham, chunky, canned soup Composition (ready to serve): moisture 78.6%; protein 5.2%; fat 3.5%; carbohydrate 11.2%; ash 1.5%

bean, wood (*Phaseolus nanus*) A kidney bean

bean, yard-long, green pod (kaohsiung) A bean that produces a long (1.5 foot), slender, round, green pod on a climbing vine; cooked like snap beans

bean, yellow-eye A large bean with a yellow eye

beard Hair on the face of men or projections on animals in the same general location; projections on grain

See Part 2: Rice Kernel

bear grass (elk grass; fire lily; squaw grass) Edible bulbous rootstock (roasted); young stems are prepared like asparagus. Southern and western North American pasture grass of several species that have similar grass like foliage

See Part 2: Poisonous Plants

bearing surface The portion of a container (e.g., food can) on which it rests

bearish A downward price trend in the market

bearnaise A thick meat or fish hot sauce made of egg yolk, butter, vinegar, tarragon, shallots, wine, herbs, and seasonings

Composition	Dehydrated	Prepared with milk and butter
Moisture (%)	5.7	61.2
Protein (%)	14.1	3.3
Fat (%)	9.0	26.8
Carbohydrate (%)	59.7	6.9
Fiber (%)	0.2	0.01
Ash (%)	11.5	1.8

beat 1) To force air into food, usually with a circular motion; mixing food by briskly lifting and dropping; to stir vigorously. 2) To tenderize meat by striking it with a heavy object

beaten biscuit Made from a wheat dough beaten with a wooden mallet

beater An instrument used to beat, whip (incorporate air), or blend liquids during cooking

beaufort A large, wheel-shaped, hard, Swiss or French cheese made from whole cow's milk

Beaujolais Any of several light, fresh, dry, fruity, and brilliant purple-colored wines produced in the Beaujolais region of France; a region in east-central France famous for its wine

Communes:

Brouilly
Chenas
Chiroubles
Fleurie
Julienas
Morgon
Moulin à Vent

beaumont A large, semisoft, light to beige, cow's-milk cheese with a yellow rind. Mild when young but strong when ripened; usually cured for 1–5 months

beaune A dry white and also a red wine

bebida A Cuban rum

behontot Pork or sometimes beef cubes (15–20 mm) flavored with turmeric, alpina galangal, pepper, garlic, chilies, and ginger and then dried

béchamel A white, broth-cream sauce

bêche de mer (cotton spinner; sea cucumber; sea slug; trepang) An Oriental seafood that is usually made into a soup

becher An herb liqueur

becquerel (Bq) In radioactivity, 1 disintegration per second

beda A white, brined cheese made from skimmed cow's or buffalo's milk

bee An insect that makes honey; a colony consists of one fully grown queen (mother, long slender body, lays 4000 eggs per day), a few hundred drones (male, larger than workers, no sting), and 40,000–50,000 workers (female, smallest).

Breeds:

Carniolans (common black, common brown)
Caucasians
Cyprian
Italian
Syrians

bee balm See **bergamot**

bee borage An herb used in soup, fried, or as a sandwich filling

beechnut The edible, triangular-shaped nut from the beech (*Fagus*) tree

Composition: moisture: 7%; protein 19%; fat 50%; carbohydrate 20%; ash 4%

Raw—astrigent

Roasted—flavor between hazel and chestnut

It can be made into a form of coffee. Beechnut oil does not turn rancid and can be used for frying but gives off an odor if heated to too high a temperature.

beechwheat See **buckwheat**

beef A bovine animal or the flesh from a bovine animal at least 10 months old

1 barrel = 200 lb

1 qt, canned = 3–3.5 lb, fresh untrimmed round with bone

= 5–5.5 lb, fresh untrimmed rump with bone

Cooking temperature: cooked to internal temperature 140°F (rare), 160°F (medium), or 170°F (well done)

mg Na/oz (28 g)

Cooked lean	18
Corned	280
Dried chipped	1219

Cholesterol content is 77 mg/3 oz

See Part 2: Animal Foods, Composition; Beef and Dual-Purpose Cattle; Beef, Boneless Cuts; Beef Chart; Beef Chuck; Beef Cuts; Beef Cuts and Uses; Beef, Degrees of Doneness; Beef, Percentages of Daily Recommended Allowances; Beef Retail Yield; Beef Rib Carving; Beef Rib Nomenclature; Beef Roasting; Beef Round, Bone Structure; Beef Round Cuts; Beef Rounds; Beef Yields; Bone Age; Braising Time; Broiling Time and Temperature; Calories, Daily Recommendations; Cattle; Cholesterol Control; Cooking in Liquid, Time; Food, Composition; Frozen Food Storage; Frozen Meat Storage Time; Gland Weights; Glutamate; Glutamate Addition; Grades, Meat; Iron, Daily Recommendations; Lamb Chart; Liver; Meat and Meat Products Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat Label; Meat, Nutritive Value; Meat, Servings per Pound; Meat Storage; Minerals, Food; Niacin, Daily Recommendations; Nicotinic Acid, Food; Portion Size; Potassium-Rich Foods; Riboflavin, Daily Recommendations; Riboflavin, Food; Roasting Meat; Roasting, Time and Temperature; Sauce, Beef Steak; Simmering Meat; Soups, Composition; Specific Heat, Meat; Tallow, Beef, Triglyceride Mole Percent Composition; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Food; Yield Grade, Meat

beefalo A type of cattle (buffalo-bison hybrids)

beef bacon Slices of cured beef

beef bologna Bologna made exclusively of beef, has a garlic flavor See **bologna**

beef brisket A cut of beef located between the fore-shanks; usually cooked by simmering or made into corned beef; maximum gain in weight on curing, 20% over fresh uncured weight

beef broth, canned soup Composition (ready-to-serve): moisture 97.5%; protein 1.4%; fat 0.2%; carbohydrate 0.04%; fiber trace amount; ash 1.05%

beef broth, cubed, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	3.3	98.0
Protein (%)	17.3	0.3
Fat (%)	4.0	0.08
Carbohydrate (%)	16.1	0.3
Ash (%)	59.3	1.2

beef broth, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	3.3	96.8
Protein (%)	16.0	0.5
Fat (%)	8.9	0.3
Carbohydrate (%)	23.6	0.8
Fiber (%)	0.2	0.01
Ash (%)	48.2	1.6

beefburger Hamburger

beef carcass See Part 2: Beef Carcass, Cutting Yield; Beef Carcasses, Yield Grade; Beef Chart; Beef Yields

beef, chipped See **beef, dried**

beef, chunky, canned soup Composition (ready-to-serve): moisture 83.3%; protein 4.9%; fat 2.1%; carbohydrate 8.1%; fiber 0.3%; ash 1.5%

beef, cooking See Part 2: Beef, Cooking

beef, cutting See Part 2: Beef Chart; Beef, Chicago-Style Cutting; Beef, New York-Style Cutting; Beef Yields

beef, dried (chipped) A long-cured product made from beef round that is cured, smoked, dehydrated, and thinly sliced; available canned, in jars, and vacuum-packaged

beef extract A water-soluble, yellow-brown paste (60% solids; max. 25% moisture) obtained by boiling lean beef under vacuum, straining the broth, evaporating it to 50% water, and adding salt. It is used for flavoring. Liquid beef extract is made by diluting the paste. (Fluid extract of beef contains max. 50% moisture.) It is used in food items and at 0.3% in bacterial media because it supplies most of the nutrients needed for bacterial growth.

beef fat See Part 2: Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fatty Acids, Fats and Oils; Tallow, Beef, Triglyceride Mole Percent Composition; Unsaturated Fatty Acids

beef German sausage A moist, cooked, unsmoked, Australian sausage made from finely chopped, mildly seasoned (with or without garlic) veal stuffed into artificial casings

74 beef grades

beef grades Quality grades are as follows:

Prime
Choice
Select
Standard
Commercial
Utility
Cutter
Canner

Yield grades:

Yield Grade 1
Yield Grade 2
Yield Grade 3
Yield Grade 4
Yield Grade 5

beef gravy, canned Composition: moisture 87.5%; protein 3.7%; lipid 2.4%; carbohydrate 4.8%; ash 1.6%

beef hams See **dried beef**

beef lactose agar See Part 2: Microorganism, Culture Media, Dairy and Food Products

beef loaf, jellied Cooked beef, is shredded, molded with gelatin, and cooked in a loaf or roll

Beefmaster A cross of Brahman on both the Hereford and Shorthorn in a three-way cross, estimated at 25% Hereford, 25% Shorthorn, and 50% Brahman
See Part 2: Beef and Dual-Purpose Cattle

beef mushroom, canned soup

Composition	Condensed	Condensed, prepared with water
Protein (%)	4.6	2.4
Fat (%)	2.4	1.2

beef noodle, canned soup

Composition	Condensed	Condensed prepared with water
Moisture (%)	84.4	92.0
Protein (%)	3.8	2.0
Fat (%)	2.5	1.3
Carbohydrate (%)	7.2	3.7
Fiber (%)	0.1	Trace amounts
Ash (%)	2.1	1.1

beef noodle, dried soup

Composition	Dehydrated	Dehydrated, prepared with water
Moisture (%)	5.0	95.3
Protein (%)	17.9	0.9
Fat (%)	6.4	0.3
Carbohydrate (%)	48.6	2.4
Fiber (%)	0.5	0.02
Ash (%)	22.1	1.1

beef olives Thin rump steak rolled around suet, bread crumbs, and flavoring and cooked in brown sauce or stock

beef patties An uncooked, unsmoked, American sausage made from meat that is medium to coarsely chopped, restructured, ground, pressed, formed, and molded or sliced

Beef Promotion and Research Act A checkoff and promotion program for beef

beef roast A large cut of beef prepared by dry heat (roasting) or moist heat (pot-roasting)

beef salami Salami made exclusively of beef

beef sausage A moist, uncooked, unsmoked, American or Irish sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef stuffed into an artificial casing. Available in small-diameter links, rolls for slicing, machine formed, or extruded

beef sausage, fresh A moist, uncooked, unsmoked, American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned beef stuffed into a pork, sheep, or artificial casing or not stuffed into a casing. Product is available in bulk, small-diameter links, rolls for slicing, machine-formed or extruded patties, and chub form. The sausage is made from fresh or frozen beef not including beef by-products; maximum fat 30%; maximum added water 3%

beef side One-half of a split carcass or a split fore- and hind-quarter

beef, sliced Boneless beef that is chopped, cooked, smoked, and sliced. It is not dehydrated and is more perishable than dried beef.

beefsteak A thin cut of beef, with or without bone, prepared by broiling or frying

beefsteak fungus (*Fistulina hepatica*) A red fungus that grows on trees and is used like mushrooms

beef stroganoff Beef cooked with onions, mushrooms, sour cream, tomato puree, Worcestershire sauce, and sometimes wine and often served over noodles

beef tallow See **tallow**

beef tea (broth) An extract made by simmering beef (with or without vegetables) in water; beef broth, beef essence; used as a foundation for soups, sauces, etc.

beef tongue Weighs $3\frac{1}{2}$ –6 lb and may be obtained fresh or cured and smoked See **cured beef tongues**

beef tree An instrument attached to the rear legs of a beef carcass during slaughter and is attached to a hoist for raising the carcass

beef with barbecue sauce A sauce containing at least 50% meat (wt. of cooked and trimmed meat) or 72% uncooked meat

beef yield See Part 2: Beef Yields

beer 1) A gassy, alcoholic beverage produced from extracted malted barley or other cereal and hops; an infusion (wort) of malted (germinated) barley that is boiled with hops and then fermented by yeast (*Saccharomyces cerevisiae*)

Types Top-fermented:

Bitter—lightly cured malt, pale in color, highly hopped

Bottled or canned—higher carbonation

Brown

Pale

Stout

Keg—contains color and flavor over time

Mild—highly cured malt, lower amount of hops, sweet

Bottom-fermented (yeast at end of fermentation):

Lager

Steps in manufacturing:

1. Barley is steeped in cold water.
2. Barley spread on the floor and periodically stirred.
3. Barley is placed in a large oven and temperature increased.
4. Sprouts are removed and barley becomes malt.
5. Malt is ground and becomes grist.
6. Grist is mixed with hot water and becomes mash.
7. The resulting liquid is the wort and is placed in a large copper boiler.
8. Hops are added and the liquor boiled.
9. Hops are strained and liquid cooled.
10. Yeast is added and fermentation takes place.
11. When sugar content is lowered to the appropriate point, the yeast is removed.
12. The liquid is put into casks to age.

Type	Serving temperature
Dark	50–53°F
Pale	41–44°F

1 keg = 180 12-oz servings

1 keg (8 gal) = 85 12-oz servings

1 cup = 8 oz

1 fl oz = 30 g

= 12.5 calories

pH 4.0–5.0

Storage: 32°–40°F

2) A soft, buttery, bland German-style cheese

beer, bock A sweet, heavy, dark beer brewed in March; has a high alcohol content

beer cheese (bierkäse; weisslacker) A soft to semisoft, semi-strong- to strongly flavored white cheese made from mixed skimmed and whole cow's milk and surface-bacteria ripened

beer, draught (schenkbier) Made with a shorter fermentation than lager beer

beerenauslese A sweet, noble, exceptional-quality wine made from individually selected grapes from the best bunches

beer, lager A light, summer beverage produced by cool, slow fermentation

beer salami A moist, cooked, smoked, Greek-style sausage made from finely (Greek) or coarsely (Australian) chopped, medium-seasoned beef and pork stuffed into pork, sheep, or artificial casings. Australian beef sausage stuffed into an artificial casing *See beerwurst*

beerwurst (beer salami; bierwurst) A cooked, smoked, garlic-flavored, German sausage made from beef and pork, similar to beef salami; contains no beer *See salami, cooked beef*

Composition	All beef	All pork
Moisture	54	61.5
Protein (%)	12.3	14.2
Fat (%)	29.5	18.8
Carbohydrate (%)	1.7	2
Ash (%)	2.8	3.4

beesting (beasting; beistyn; biesting) The first milk produced after a calf is born. It can be mixed with 3–4 volumes of milk and used in cooking.

beeswax A wax from the honeycomb of the bee; used to glaze candy

See Part 2: Saturated Fatty Acids; Wax

beeswax, white (white wax) Bleached, purified wax from honeycomb of the bee (*Apis mellifera*); melting range 62–65°F; sp. gr. 0.95; used as a food glaze, polish, flavoring agent, and general-purpose additive
Storage: tight container

beeswing A light, mucilaginous, floating, thin crust or sediment that often forms in old port wine

beet (beetroot) A cool-weather annual or biennial member of the goosefoot family, closely related to sugar beets; the red (golden or yellow and white varieties are also available) beetroot may be used as a salad root, boiled, steamed, baked, fried, packed in vinegar, stuffed, canned, or made into soup or wine; the root may be spherical to oblong or ovoid.

Types:

Beta cicla (chard)—leaves and stalk used as vegetables

B. rubra—red root, used as a vegetable

B. vulgaris—white root, used for sugar and cattle feed

Garden beet—small and red

Stock beets, or mangels—too coarse for human food; used for chicken or cattle feed

Sugar beet—large and coarse, 15–22% sugar, sometimes used for livestock feed

800–1400 seed/oz; 10–14 days germination time; 1 oz of seed for 50–100 foot row; 5–6 seed/ft or row; 10–12 lb of seed/acre (14–16 lb/acre for processing); thin to 3 in. apart in rows 18 in. apart (greens from thinning may be cooked like spinach or used in salads); harvest (50–60 days) when diam. is 1.25–2 in. (1 bu/25-ft row). Toughness increases with maturity.

See pickle

Canned styles (regular pack or vinegar and sugar):

Cut—from beets with 2- to 2.75-in. diam.

Diced— $\frac{3}{8}$ -in. cubes

Quarters

Shoestring

Sliced— $\frac{3}{8}$ -in. thick

Strips

Harvard beets—in slightly thickened, sweet vinegar sauce

Pureed

Whole—up to 1.75 in. diam.

Frozen styles:

Cut

Diced

Sliced

Whole

Monogerm varieties: Explorer; Monogerm; Monoking; Pacemaker

Refuse: (fresh) 20–25% tops and skin

100 lb fresh beets = 14–17 lb dry beets

1 bu, topped, fresh = 52 lb (50–60 lb)

= 16–24 qt, canned

= 35–42 pt, frozen

1 crate (8 × 12 × 22 in.), bunched = 40 lb

3 qt, sliced (7 lb, without tops) = 6 pt, pickled

2–3½ lb, fresh, topped = 1 qt, canned

2½–3 lb, fresh, topped = 1 qt, frozen

76 beet (beetroot)

Variety (garden beet, small)	Root and greens	Size	Color	Season
Albino White	Globe; tops may be used as greens		White	50 days
Badger Baby	Globe	1 in.		
Crosby's Egyptian (Redhart)	Flat or globe		Dark red	Early, 56 days
Crosby's Green Top	Grown for greens			
Detroit Dark Red	Ball or globe; tops can be used as greens	Med.; 2½–3 in.	Deep red	Med.-early, 58 days
Early Wonder	Semiglobe	3 in.	Red	Early, 52 days transplanted at 40 days
Flat Egyptian Golden	Flat or globe; Flat or globe; tops may be used as greens	Small	Golden	55 days
Green Top Bunching	Flat or globe; tops may be used as greens		Red	Early, 65 days
Little Egypt				
Long Dark Blood	Long			Late
Long Season				Late
Long Smooth Blood	Long			Late
Lutz Green Leaf (winter-keeper, long season)	Shaggy, top-shaped; midrib used as greens	Very large	Purple-red	Slow-growing, 80 days; can be harvested all winter
Perfected Detroit	Globe	Med.	Dark red	Medium-early, 58 days
Red Ball	Globe or ball	3 in.	Dark red	60 days
Red Pak				Medium-early
Ruby Queen	Flat or globe		Solid red	Very early, 53 days
Snowwhite			White	

1 lb, fresh, without tops, diced
= 2 cups
= 3–4 servings
1 lb, fresh, with tops = 2 servings
16 oz, canned = 3–4 servings
1 large beet = 1.3 cups, peeled and coarsely shredded
1 cup, topped, fresh = 145 g (5.1 oz)
1 cup, canned, solids and liquid = 5.8–8.6 oz
1 cup, sliced, boiled, drained = 7.2 oz
1 cup, canned, drained solids = 5.2–6.2 oz
1 cup, diced, boiled, drained = 6 oz
1 serving = 1.5 med. beets
= 0.3–0.5 lb

Composition: moisture 87%; protein 1.5%; fat 0.1%; carbohydrate 10%; sugar 10% (increases with maturity); fiber 2.1%; ash 1%; 81 mg Na/cup; pH 4.9–5.5
Storage: Dig before ground freezes; cut tops off ½ in. from beet; cover with dry sand and store in a cool place, pit, cold cellar, or root cellar or remove tops and store covered in a refrigerator (32°F); 90–95% relative humidity; use within 1 week to 3 months
See Part 2: Canned Spoilage Related to pH; Canned Yield; Food Composition; Glutamate; Minerals, Food;

Nitrate, Vegetables; Pentosans; Plant Foods, Composition; Planting Density; Portion Size; Root-Crop Characteristics; Seed, Germination; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Wastes, Agricultural, and Industrial

beet greens Beet tops used as greens; good source of Vitamin A

1 bu, fresh = 15 lb
= 10–15 pt, frozen
1 pt, frozen = 1–1.5 lb, fresh
1 cup, boiled and drained = 5.2 oz
1 serving = 0.3 lb

Composition: moisture 90%; protein 2%; carbohydrate 5.5%; fat 0.3%

Storage: Wash and drain; store in refrigerator crisper or plastic bag; use within 1–2 days.

beet juice (beet powder) A vegetable dye used to color food

beetle See Part 2: Ham Beetle; Larder Beetle

beet leafhopper An active, sun-loving, dry-climate, wedge-shaped, $\frac{1}{8}$ -in. long insect that varies in color from light yellowish green in summer to grayish brown in the fall. It seldom becomes numerous enough to cause damage but carries a virus that it transmits to plants, causing curly-top disease

beet pickle Whole or sliced beets placed in a vinegar and sugar solution
1 cup, diced = 2 med. beets

beet powder A natural food additive used for food color

beet pulp, dried

1 bu = 19 lb

1 qt = 0.6 lb

beetroot See **beet**

beet, silver (acelga beet spinach; perpetual spinach) The stalk and leaf may be used as a vegetable; the leaf is coarser and milder than spinach

beet, spinach See **beet, silver**

beet sugar (*Beta vulgaris* L. *gramineae*)

	Pulp			Aerial part, with crown	
	Wet	Dehydrated	With molasses	Fresh	Silage
Dry matter (%)	11	91	92	17	22
Protein (%)	1.2	8.8	9.3	2.7	3.0
Fiber (%)	3.1	18	15	1.9	3.1
Fat (%)	0.2	0.5	0.6	0.4	0.6
Ash (%)	0.5	4.9	5.6	3.4	7.3

See **sucrose; sugar beet**

beget To have offspring

begissing Washing meat

behenic acid $[\text{CH}_3(\text{CH}_2)_{20}\text{COOH}]$ A 22-carbon saturated fatty acid found in peanut and rapeseed oils
See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Saturated Fatty Acids

behen oil (oil of ben) A nondrying oil from ben nut (*Moringa*) used in food, for extraction, and for lubrication

See Part 2: Saturated Fatty Acids

beignet A light, batter-dipped, paste fritter that is deep fat fried

belachan A fermented paste of prawns or shrimp

belachen See **balachan**

belarno A rich, hard, goat cheese from Italy

belegte brote A rye-bread open sandwich

belfast ham A smoked, dry-cured, pork ham

Belgian endive See **chicory; French endive**

Belgian sausage A moist, cooked, Australian sausage

beli sir Cheese pickled in brine

bella alpina A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese made from cow's milk

bel lago A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese made from cow's milk

bella milano A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese made from cow's milk

bellelay (monk's-head) A soft rennet, buttery, 10- to 15-lb cheese made from whole milk in Switzerland; a tilsit-type cheese; Swiss cheese

bellelay cheese See **monk's-head cheese**

belles des champs A cream cheese

bellling A method of testing eggs: gently tap eggs together; checked eggs give a dead sound, those without checks give clear, bell-like sound

belle isle cress See **cress, American**

bell scraper A metal dome-shaped scraper with a wooden handle used to remove hair or dirt from a hog carcass

belly The area of a hog carcass from which bacon is made and spare ribs removed; trimmed hog belly is 14% of hog carcass

See Part 2: Pork Cuts

Bel Paese A 5-lb, mild, mellow, semi soft Italian dessert cheese that is mild- to strong-flavored, surface-bacteria-ripened, with a light yellow interior and gray surface and is made from whole (cow's) milk; ripened 6-8 weeks; there is a map on the package.
See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content

bel piano lombardo A creamy, semisoft, surface-bacteria-ripened, mild-flavored, cheese made from cow's milk

bel piemonte A creamy, semisoft, surface-ripened, mild-flavored cheese made from cow's milk

Belted Galloway Black Scottish beef cattle with white belt circling body between shoulders and hooks.
See Part 2: Beef and Dual-Purpose Cattle

Beltsville No. 1 A breed of hogs originated by U.S.D.A.; consists of a cross between Danish Landrace (75%) and Poland China (25%); it is black with white spots and has drooping ears.
See Part 2: Swine Breeds

Beltsville No. 2 A breed of hogs originated by U.S.D.A. by crossing Yorkshire (58%) and Duroc (32%) and also adding 5% Hampshire and 5% Landrace blood; it is red in color and has a white underline and occasional black spots

Beltsville Small White See Part 2: Turkey Varieties

belval A tilsit-type cheese

belvoir blue A mild-flavored blue cheese made from cow's milk

belyash A meat-filled, fried, wheat-flour dough pie

Benedict A test for reducing sugar

benedictine (D.O.M.) A famous, very sweet, aromatic, French herb liqueur with cognac base; used as an after-dinner cordial or in mixed drinks

benedictine and brandy (B & B) A drier benedictine

78 bene seed (benne seed; benni seed)

bene seed (benne seed; benni seed) *See* sesame seed

bengal agar *See* agar-agar

See Part 2: Microbiological Examination of Dairy Products

bengal gram *See* chick pea

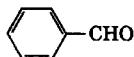
benne oil *See* sesame oil

bensaab A thick porridge gruel made from sorghum or millet mixed with beans

ben shalom A citrus liqueur

bent grass (*Agrostis*) A reedy, stiff, wiry grass used for pasture or turf; neglected pasture
See Part 2: Seed, Germination

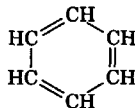
benzaldehyde (benzoic aldehyde)



A compound that is found in the kernels of bitter almond, peach, and apricot but is usually made synthetically; used as a flavoring agent in food

Storage: full, tight, light-resistant container in a cool, dark place

benzene (C_6H_6) A liquid hydrocarbon made from petroleum or coal tar; it is an unsaturated aromatic substance that is the chemical basis for hundreds of derivatives, e.g., dyes, pharmaceuticals, insecticides, plastics, detergents, etc. Many of its derivatives are made by substituting various groups or side chains for one or more of the hydrogen atoms. *See* aromatic; petroleum

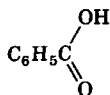


benzene hexachloride (C_6Cl_6) A poisonous chlorinated hydrocarbon used as an insecticide. It is a mixture of several isomers and contains 12–14% of the toxic gamma isomer. *See also* lindane

benzoate of soda *See* sodium benzoate

benzocaine A local anesthetic used in some diet gums, candy, and lozenges to numb the taste buds

benzoic acid

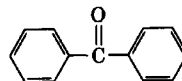


An aromatic acid used as an antimicrobial agent (preservative that inhibits the growth of many molds) in food (e.g., bread, catsup, cheese, fruit products, acidic foods and margarine, etc), but only up to 0.1%; metabolized by humans. It occurs naturally in cinnamon, cranberries, greengage plums, prunes, ripe olives, and benzoin resin.

Storage: tight container

See Part 2: Organic Acids in Fruits and Vegetables

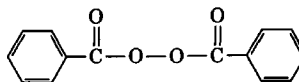
benzophenone (diphenyl ketone; benzoylbenzene)



Used as a flavoring agent in food

Storage: cool, dry place

benzoyl peroxide

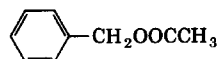


Used as a bleaching agent for flour, oil, or cheese; as a maturing agent, and as a dough conditioner

Caution: The dry product can spontaneously explode! Storage: Store in original container and observe safety precautions printed on the label.

See peroxide

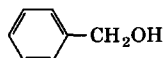
benzyl acetate



Used as a floral flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

benzyl alcohol (phenyl carbinol)



Used as a flavoring agent in food

Storage: tight container

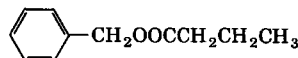
benzyl benzoate



Used as a food flavoring agent

Storage: full, tight container in a cool place protected from light

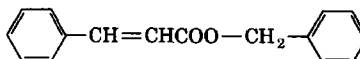
benzyl butyrate



Used as a plumlike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

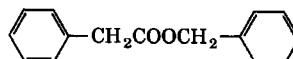
benzyl cinnamate



Used as a flavoring agent in food

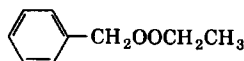
Storage: full, tight glass container in a cool, dark place

benzyl phenylacetate

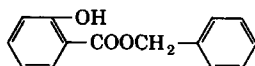


Used as a sweet, floral flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

benzyl propionate

Used as a sweet, fruity flavoring agent in food
Storage: full, tight, glass container in a cool, dark place

benzyl salicylate

Used as a sweet flavoring agent in food
Storage: full, tight, glass container in a cool place

berberry See **barberry****bercy** A white, fish-flavored sauce**berdeaux** A red wine with a low alcohol content**beref (sele)** Dark brown, fermented balls of melon seed used in soup and stews**bergamot (bee balm; oswego tea; Monarda)** An essential oil used in flavoring; a sweet, fruity flavoring agent. It is obtained from several different plants:

Citrus bergamia—a pear-shaped orange whose peel is used for flavoring; a volatile essential oil is expressed from the peel of the fruit

Monarda didyma—aromatic herbs of the mint family; used to flavor beverages and for tea, salad, and food flavoring

Leaves—used dried or fresh for salads, tea, and pork

Flowers—used in salads

Pyrus persica—a pear

Storage: full, tight, glass container, in a cool place, protected from light

See Part 2: Essential Oils; Flavoring Agents, Natural

bergerac A light red or white wine**bergkäse** A hard, yellow, mild to sharp Swiss cheese with eyes that is made from cow's milk**bergquare** A Swedish cheese similar to gouda**bergues** A semisoft, low-fat cheese made from cow's milk. A strong flavor is often produced by maturing 1–3 weeks in beer washing. Pepper and herbs are often used as flavoring. It usually has a red rind.**beri-beri** A nutritional deficiency disease caused by lack of thiamin (vitamin B₁) in the diet. It is common among people who eat primarily polished rice.

berkelium (Bk) A synthetic radioactive element of the actinide series; Group IIIB of the Periodic Table; at. no. 97; mass number of the most stable isotope 249; oxidation states +3, +4; electron configuration 2–8–18–32–26–9–2 orbit K L M N O P Q

Berkshire A meat-type breed of hogs that originated in South Central England from Chinese, Siamese, and Italian strains; it is black, preferably with six white points, and has an erect ear and a turned-up snout.

See Part 2: Swine Breeds

Berkshire Knot Large, horned, dark-faced breed of sheep

berliner (New England; New England-style sausage) 1) A cooked, smoked sausage made from coarse-cut pork [with a small (15% max.) quantity of finely chopped beef] and veal, which is held three days before stuffing to allow curing, stuffed into a beef or an artificial casing; available in large-diameter links, rings, or large-diameter casings for slicing; stomachs or tripe not permitted. It is cooked and smoked and contains only sugar and salt as seasoning.

Composition: moisture 61–67%; protein 15–17%; fat 7–17%; carbohydrate 2–5%; ash 3.6–4%

2) A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned beef and pork; not stuffed into casings

berliner blood sausage A dried, smoked, cooked sausage containing bacon**berliner kuhkäse** See **alte kuhkäse**; **hand cheese****Bermuda grass (wire grass; *Cynodon dactylon*)**

A perennial plant used for pasture and lawns; hard to eradicate; pH 5.0–5.5; approx. nutrients used in growing 3 tons for grazing: 85 lb N, 18 lb P₂O₅, 60 lb K₂O; varieties: Coastal; Common; Midland

1 bu, Bermuda grass seed = 35 lb

See Part 2: Seed, Germination

Bermuda plan Breakfast only included in room rate**berner zungerwurst** A moist, cooked, smoked Swiss sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into a beef or an artificial casing**bernfisk** Dried cod or dried ling**bernkastel** A flowery, white wine made from Riesling grapes

berry (true) A subdivision of simple fruit; it has a fleshy ovary wall enclosing one or more seeds and attached to a fleshy placenta; (e.g., gooseberry, currant, cranberry, grape, banana, tomato, eggplant); fruit usually referred to as berries fall under the aggregate fruit classification. Canned grades consider uniformity of ripeness, color, and texture:

Grade	Syrup
Fancy	Heavy
Choice	Medium heavy
Standard	Light
Water pack	Water
(pie pack)	

Berries (except strawberries)

50-gal barrel = 380 lb

1 crate, fresh = 36–40 lb

= 16–20 qt, canned

5 cups, fresh = 1 qt, canned

2 cups, fresh = 1 lb

1 qt, canned = 1–2 boxes, fresh

= 1¼–3 lb, fresh

1 qt, fresh = 1½ lb, fresh

To remove stains from cloth, soak promptly in cold water and launder in hot water, with bleach if necessary.

Composition: moisture 85%; protein 1%; fat 1%; carbohydrate 13%; ash 0.5%

80 berry (true)

Storage: Keep whole, unstemmed, uncovered (but can be covered if moisture loss is a problem), and unwashed; temperature 31°F; relative humidity 85–90%; freezing point 29–30°F; use in 1–2 days

See Part 2: Calories, Daily Recommendations; Fruit, Availability; Fruit Harvest Dates; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Fruit Storage; Standards, Processed Fruit and Vegetable Products; Storage Times; Vegetables, Classification

berry, loose-frozen Berries that are frozen individually prior to packaging so that they remain loose and easy to remove from the container

berry pie *See Part 2: Baked Products, Frozen Storage Life*

berseem clover (Egyptian clover; *Trifolium alexandrinum*) A tall-growing annual grown as a winter forage crop

beryllium (Be) A metallic element; at. no. 4; at. wt. 9.013; Group IIA of the Periodic Table; oxidation state +2; electron configuration 2–2 orbit K L

Beryllium and its compounds are poisonous.

beryofovitsa A sour, alcoholic beverage made from the sap of the birch tree

Berzelius, Jons Jakob A Swedish chemist who discovered that iron in hemoglobin gives it the ability to absorb oxygen

besan A flour made from lentils (*Chana del*)

beskidzka A semidry, cooked, double-smoked Polish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into a horse casing

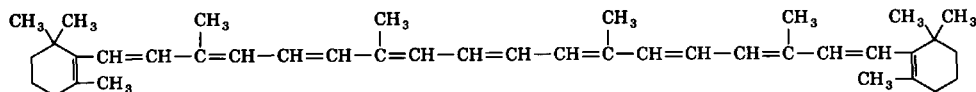
best if used by Gives the date by which a product should be used for the best taste and texture

beta (B, β) Greek letter with an English equivalent of b

beta-adrenergic agonists (beta-agonists) Structural analogs of the catecholamines epinephrine and norepinephrine. They are used to improve growth performance and carcass characteristics.

beta-apo-8'-carotenal A natural as well as synthetic food additive used to color (yellow, red) food

beta carotene (carotene; provitamin A beta carotene)



A synthetic as well as natural food additive found in many fruits and vegetables and in animal fat, liver, and fish oil; used to maintain or improve nutritional values (vitamin A) or as a yellow color additive for food. A carotenoid that is transformed to vitamin A in the liver

betaine (C₅H₁₁O₂N)

See Part 2: Grain Analysis; Wheat Products, Composition

beta particle (β⁺ or β[−]) A positively or negatively charged particle that is emitted from the nucleus of an atom during radioactive decay and has a mass and charge equal in magnitude to those of the electron. A negatively charged beta particle is physically identical to the electron.

beta ray A stream of high-speed, negatively charged particles coming from the nucleus of radioactive elements; physically identical to electrons, with moderate penetrating power

betel 1) Leaf of a creeper pepper (*Piper betel*) that is chewed for its stimulating effect. 2) The dried seed of *Areca catechu*, a pinnate-leaved palm also chewed for its stimulatory effect *See palm*

See Part 2: Vegetable Storage

bethmale A semihard cheese, with a full, fruity flavor, that is made from cow's or sheep's milk

betty A dessert made by placing alternate layers of sweetened fruit and buttered bread crumbs in a dish and baking

Betula A genus of birch trees; the black birch (*B. lenta*) bark is extracted for methyl salicylate.

See Part 2: Flavoring Agents, Natural

beurre manie A smooth paste mixture of flour and butter used for thickening sauces; often made into balls

beurre noir (black butter; French) Butter melted over low heat until it is dark brown; used as a sauce for fish or meat

beverage Inclusive name for any liquid drink, usually agreeable, consumed by humans

See Part 2: Beverage, Carbonated, Ingredients; Microbiological Media; Minerals (Trace), Limits

beverage wine Average, everyday wine; opposite of vintage

beynum A Swiss cheese made from cow's milk

BG sulfa agar *See agar-agar*

See Part 2: Microorganism, Media

bgug panir A low-fat, high-protein, hand-molded, semisoft cheese made from sheep's milk

BHA *See butylated hydroxyanisole*

See Part 2: Antioxidant Activity; Antioxidant Mixtures; Antioxidants, Formulas; Antioxidant Structure

bhalle Cakes or balls of spiced black gram (*Phaseolus mungo*) that are deep fat fried

bhatura A flat, fermented wheat bread that is deep fat fried

BHC Abbreviation for benzene hexachloride *See also lindane*

BHT *See butylated hydroxytoluene*

See Part 2: Antioxidant Activity; Antioxidant Mixtures; Antioxidants, Formulas; Antioxidant Structure

Bi Symbol for the element bismuth

bi- Prefix meaning two; **di-** is more frequent

-bi- Infix meaning life

bianco A tilsit-type cheese

bianco vermouthe A pale, sweet vermouth

biarom A tilsit-type cheese made from partially skimmed milk

bias Prejudiced judgment

biayla surowa A moist, uncooked Polish sausage made from medium-chopped, medium-seasoned beef and pork, with textured vegetable protein (TVP) and stuffed into a sheep casing

bib (pout; pouting; *Gadus luscus*) A food fish

bibbelskåse A soft, white cheese made from cow's milk and flavored with horseradish and herbs

bibb lettuce (limestone) Similar to Boston lettuce, deep green and crisp leaves. *See also* lettuce

bicarbonate of soda (NaHCO_3) Acid sodium carbonate; used to retain color in cooking vegetables and to produce carbon dioxide in bread *See* baking soda; sodium bicarbonate

biceps brachii A muscle of the chuck that lies in front of the humerus; attaches to the head of the radius

biceps femoris A thigh muscle running from the ischium (ox) or from the ilium over the ischium (other animals) to the back of the tibia; it is the large lateral muscle of the round; part of the bottom round. *See* Part 2: Edible Meat and Chilled Carcass

b.i.d. Latin for twice a day

biddy Slang or colloquial term for a hen

bielanska A moist, cooked, smoked Polish sausage made from finely or medium-chopped, medium-seasoned beef and pork, with plasma and textured vegetable protein (TVP), and stuffed into an artificial casing

bien cuit Well done

biennial A plant or plant parts, such as bramble canes, that completes its life cycle (seed to seed) within a 2-yr period *See* alternate

bier Beer

bierkåse *See* beer cheese

bierschinken A sausage product usually made from pork cuts other than the ham. 1) A medium- to coarse-chopped, cooked, American sausage available in large-diameter links, rings, or large-diameter casings for slicing. 2) A moist, cooked, smoked East German sausage made from fine- to coarse-chopped, mildly seasoned beef and pork stuffed into a beef, sheep, or an artificial casing. 3) A moist, cooked, smoked West German sausage made from fine- and coarse-chopped, mild-seasoned beef and pork stuffed into an artificial casing

bierschinkenwurst A moist, cooked, smoked Swiss sausage made from coarsely chopped, mildly seasoned beef and pork stuffed into a beef or an artificial casing

bierwurst (Dutch; dauerwurst) Beef and pork cervelat. 1) A semidry, uncooked, smoked Dutch

sausage made from medium-chopped, medium-seasoned beef and pork that is fermented and stuffed into an artificial casing. 2) A moist, cooked, smoked Belgian sausage made from medium-chopped, heavily seasoned beef and pork

bierwurst Beef and pork cervelat. 1) A moist, cooked, unsmoked Australian sausage made from medium-chopped, mildly seasoned beef. 2) A moist, cooked, smoked East German sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef and pork stuffed into a beef, sheep, or an artificial casing. 3) A moist, cooked, unsmoked, Irish sausage made from medium-chopped, medium-seasoned pork stuffed into an artificial casing. 4) A semidry, cooked, smoked, West German sausage made from medium-chopped, mildly seasoned beef and pork stuffed into an artificial casing. 5) A moist, cooked, smoked Swiss sausage made from coarsely chopped, medium-seasoned, beef and pork stuffed into a beef or artificial casing *See* beerwurst

bifidus milk An acidophilus milk made in Sweden

bifost A soft, white cheese made from goat's milk

bigarade An orange-flavored, bitter sauce used mainly for game

big Boston *See* Boston lettuce

bigeneric Obtained by crossing two genera

Biggy agar *See* agar-agar

See Part 2: Microorganism, Media

bighead (*Aristichthys nobilis*) A food fish

bighorn (*Ovis canadensis*) An edible, wild, mountain sheep

bigmouth (*Megastomatobus cyprinella*) A buffalo fish, winter carp

bigos A mixture of sauerkraut and sausage, ham, game, or bacon that is seasoned with pepper

big packer hides Hides removed from the carcass by relatively skilled labor

Big Stem Jersey A dry, mealy variety of sweet potato

big vein A disease of lettuce that causes a clearing of chlorophyll from the area around the leaf veins. Plants are stunted.

bilberry (blaeberry; blueberry; huckleberry; hurtleberry; whinberry; whortleberry; worts huckleberry; *Vaccinium myrtillus*) A low shrub bearing a juicy, bluish black, globose fruit; the fruit is acid when raw but is used in tarts and jam and to make wine. It is available fresh, canned, and frozen. *See* blueberry

bil-bil A clear, mildly alcoholic, red sorghum beer

bile A bright-colored liquid that is secreted by the liver, stored and concentrated (4–5 times) in the gallbladder, discharged into the duodenum, and used to facilitate digestion, particularly of fat

bile broth Microbiological broth used in the detection of coliform organisms; bile is inhibitory for most other bacteria.

See Part 2: Microbiological Examination of Dairy Products

bile salts Salts formed from bile acids; their function is emulsification of fats, which can then be hydrolyzed more rapidly

bilimbi (carambola; cormandel; gooseberry; *Averrhoa carambola*) The yellow, acid fruit of the carambola tree *See* **carambola**

billbug An insect that makes holes in corn stalks near the ground or across the corn leaves; often kills buds of young plants

Control: early planting, rotation; avoid infested area for few years; treat plowed area

billigservelat A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, mildly seasoned beef and pork stuffed into an artificial casing

billinge A Swiss cheese made from cow's milk

billion A numerical term; in France and the United States it is 1,000,000,000 (10^9); in England and Germany 1,000,000,000,000 (10^{12})

bill of lading A carrier's contract and receipt for goods that the carrier agrees to transport from one place to another and to deliver to a designated person

billy A valençay-type cheese made from goat's milk, wrapped in plane or grape leaves, and matured in pots

billtong Long strips of beef or antelope meat cut into strips, rubbed with a curing mixture, and dried to produce jerky

bilva The round, thick, hard skin of the fruit of the ugli tree. It is made into jam or eaten after baking

bind To add eggs, thick sauce, or other ingredients to a mixture so that it will hold together

bindae tok A pancake made from batter containing ground dried green beans

binder A substance that gives a mixture uniform adhesion, uniform solidification, and uniform consistency

binder (sausage) A term used in sausage manufacture to indicate a material that will absorb and hold moisture at elevated temperatures; may not contain over $3\frac{1}{2}\%$ collectively or individually:

1. Cereal
2. Vegetable starch
3. Starchy vegetable flour
4. Soya flour
5. Nonfat dry milk (dried skim milk)
6. Dried milk
7. Max. 2% isolated soy protein

binders Cross fibers that bind sheep fleece together

binding activity Measured as milliliters of fat emulsified per 100 mg of total protein

binn A semihard cheese made from cow's milk, with a full, fruity flavor

binomial distribution A population that can be divided into two classes (e.g., yes and no); the variable is a discrete value in contrast to a continuous variable

binomial system A system of naming things using two names, e.g., genus and species

binoro A small fish that is brined and then packed in dry salt

bintang baru An alcoholic beer

binubudan A clear rice wine

binuburan A clear rice wine

bio- Prefix meaning life

bioassay Determination of the relative potency of a substance by evaluating the physiological effects of a substance on a living organism, including higher animals

bioavailability Presentation of a nutrient across the intestinal mucosa in a form that can be utilized by the body (human or animal)

biochemical oxygen demand (BOD) The oxygen consumed by the oxidation of organic matter, usually by bacterial action for a specific period of time (usually 5 days) at a specific temperature (usually 20°C) *See* **biological oxygen demand**

biodegradability Able to be degraded by living organisms in normal effluent (sewage) treatment

bioldpolve A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, medium-seasoned pork with blood added, and stuffed into an artificial casing

biogas Methane admixed with other hydrocarbon gases obtained by destructive distillation of animal manures and other agricultural wastes; used as a fuel

biokinetic zone The temperature range that permits life; generally considered to be between 0 and 60°C (60 – 140°F). A few examples can be found outside this range.

biological assay An analysis conducted by examining the effect of a substance on experimental animals

biological oxygen demand (BOD) The amount of oxygen necessary for aerobic putrefaction of a sewage sample. It is measured by the ability to decolorize a solution of potassium permanganate. *See* **biochemical oxygen demand**

biological value (BV; of a protein) The percentage of true digestible protein used by the body. The proportion of absorbed nitrogen that is retained in the body for maintenance and/or growth when a given protein is consumed; a measure of the efficiency with which a protein furnishes the proper amount and proportion of essential amino acids to the body; related to protein quality; percentage of true absorbed protein (or nitrogen) from the intestinal tract that is available for productive body functions

$$\text{BV (\%)} = \frac{\text{N intake} - (\text{urinary N} + \text{fecal N})}{\text{N intake} - \text{fecal N}} \times 100$$

Values:

To support growth = $0.70 +$
 Egg 0.99 (range $0.94 +$)
 Milk 0.85
 Beef 0.74
 Rice 0.70
 Maize 0.54
 Wheat 0.64

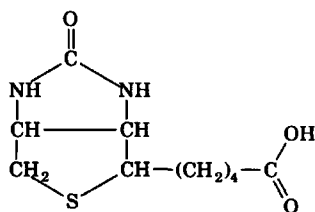
biomass The total amount [usually in tons of dry matter (20% moisture)] of plant material (from roots to tops) per unit area

biosate agar *See* **agar-agar**
See Part 2: Microbiological Media

biota All living organisms of a given region

biotest A can-testing procedure in which cans are filled with a nutrient solution, closed, heat-processed, cooled in water, contaminated with spoilage bacteria, and checked for the number of swollen cans

biotin (coenzyme R; vitamin H)



A water-soluble member of the vitamin B complex necessary for growth and health; found in enzymes that are active in carboxylation. It occurs in yeast, liver, and milk. Persons who consume large amounts of raw egg white may develop a nutritional deficiency because the avidin in the egg white combines with biotin in such a way as to make it unavailable. Withdrawal of egg white from the diet will correct this deficiency. *See also* **avidin**

Storage: tight container

See Part 2: Biotin Content; Cheese, Vitamin Content; Egg Products, Nutritive Value; Milk and Milk Products, Vitamin Content; Milk Composition; Vitamin Sources, Functions, and Stability; Wheat, Vitamins

bira An alcoholic beer

birch 1) An artificial flavoring used in soft drinks, e.g., birch beer.

See Part 2: Flavors, Beverage

2) A tree that is excellent for firewood [21×10^6 Btu/cord (20% moisture)], easy to start, and easy to split and produces light smoke, good coals, and few sparks

birch tar oil Obtained by dry-distillation of the bark and wood of *Betula pendula* and rectified by steam-distillation; used as a leatherlike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

bird 1) A member of the class Aves of animals 2) *See capsicum*

See Part 2: Egg Incubation Periods; Meat and Meat Products, Composition

bird cherry *See* **cherry**

birds-eye rot *See* **anthracnose**

bird's foot trefoil (*Lotus corniculatus*) A plant with clawlike pods; a perennial legume; used as a herb and for pasture and hay; pH 6.5–7.0; 60 lb/bu; plant 4–6 lb/acre

Types: low-growing (Empire); upright

Varieties: Cascade; Granger; Parker; Viking

bird's nest A Chinese soup made from the gelatinous material (derived from seaweed) that lines the nest of *Salangane* swallows; also a fungus

birefringence A property of polarized light in two directions found in anisotropic materials

birngeist A pear brandy

birweka A spiced tea bread

bis- A prefix used in chemical terminology to indicate that a group occurs twice in a molecule, as the phenol group in bisphenol A $(\text{CH}_3)_2\text{C}(\text{C}_6\text{H}_5\text{OH})_2$

biscuit 1) Literally, twice-cooked, from French *cuire*. A small breadlike cake made from flour, milk, shortening, and baking powder, baked at about 400°F, and served hot. For optimum lightness it should double in volume during baking (12–15 min at 425°F)

one 2-in. diam. biscuit = 1 oz

Composition: From baking powder, 175–272 mg Na/biscuit (28 g)

2) Soft, unsweetened, hot, leavened dough bread. 3) Similar to a mousse but frozen in individual forms. 4) Animal feed made from shaped and baked dough

See Part 2: Calories, Daily Recommendations; Grain Products, Composition; Spoilage, Fat in Foods; Thiamin, Food

biscuit, beaten A non-baking-powder biscuit that is hard and crackerlike

biscuit dough

1 biscuit = 22–25 g

Storage: refrigerate

biscuit, drop An irregularly shaped biscuit that is tender with a crisp crust and a coarse texture

bishop's-weed *See* **aegopodium**

bisk *See* **bisque**

bismark An intoxicating beverage made by mixing a bottle of stout and a pint of champagne

bismuth (Bi) A metallic element; at. no. 83; at. wt. 208.99; Group VA of the Periodic Table; oxidation states +3, +5; electron configuration 2–8–18–32–18–5 orbit K L M N O P

bismuth sulfite agar *See* **agar-agar**

See Part 2: Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

bismuth sulfite broth *See* Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

bison A species of buffalo *See* **buffalo**

American—*Bison bison*

European—*B. bonasus*

See Part 2: Gestation Periods

bisque 1) A thick, smooth, creamy soup that is made from fish, shellfish, or game and is strained; may also contain cubes of meat. 2) A high-fat ice cream that contains bread or confection products or nuts *See* **coulis**

bistort (adderwort; snakeweed; *Polygonum bistorta*) An astringent plant of the dock family used for seasoning; the leaves may be eaten like spinach and the roots may be baked

bisulfate group —O—SO₂—OH

bisulfate ion (HSO₄)[–]

bit The smallest unit of information that the computer recognizes. A bit is represented by the presence or absence of an electronic signal (0 or 1)

bite 1) A taste in young wines that is caused by acid and tannin. 2) The heat factor, as detected by the tongue, for a spice

84 biting

biting Descriptive of a sensation perceived by the tongue; can be caused by, e.g., pepper or ginger. It is less intense and of shorter duration than a burning sensation.

bitki A round or flat hamburger that can be flavored with many different things

bitter 1) A basic taste response, perceived at the back of the tongue, that may be caused by quinine, caffeine, and some alkaloids. 2) A well-hopped, bitter ale popular in England; standard English draught beer
See Part 2: Bitter Flavors; Bitters, Herbs; Flavor Ingredients, Taste and Flavor Type

bitter almond See **almond**

See Part 2: Essential Oils

bitter ash (bitterwood) See **quassia extract**

bitterchocolate See **chocolate**

bitter gourd See **balsam pear**

bitter melon (African cucumber; balsam apple; balsam pear; *Mormodica charantia*) A green, wrinkled, cucumber-sized vegetable with an initial bitter quinine flavor and a mintlike aftertaste

bittern

America—*Botaurus lentiginosus*

Australia—*B. polycipitilus*

Europe—*B. stellaris*

An edible nocturnal water bird

bitter orange See **sour orange**

bitter pit A physiological disease of the fruit surface of apples and pears that causes watery spots on the calyx end of the fruit

Control: calcium chloride spray

bitter rot An American fungal disease of bunch grapes that may appear as the fruit begins to mature. More prevalent in the South. Regular sprays for black rot and downy mildew generally control this disease.

bitters Scented or flavored alcoholic mixtures; aromatic or medicinal liquids, sometimes alcoholic in nature; used in cooking and as tonics

Types:

Aromatic—used as short drinks

Flavoring—used to flavor drinks

bittersweet A flavor of bitter and sweet; the root and bark of a climbing plant (*Celastrus scandens*) that when consumed can increase perspiration; poisonous nightshade (*Solanum dulcamara*)

See Part 2: Flavor Ingredients, Taste and Flavor Types

bitter tonic Bitter-tasting substances used to stimulate flow of digestive juices

bitterweed A grass which will cause off-flavors in milk when eaten by cows

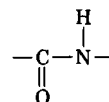
See Part 2: Poisonous Plants

bitto A hard emmentaler, Italian- or Swiss-type of cheese, with small eyes, made from cow's or goat's milk. It may be consumed fresh or aged as much as 2 yr.

bituminous See **coal**

Biuret test A general test for protein; a pink to purple color is formed when protein is heated with alkali and copper sulfate; the color is due to the

presence of two



groups. Tripeptides and all native proteins give a positive test.

See Part 2: Protein and Amino Acids, Color Reactions

bivalves

Clams:

Butter

Geoduck

Hard or quahog

Littleneck

Pismo

Razor

Soft or steamer

Surf or skimmer

Mussels:

Blue

California

Oysters:

Eastern/Atlantic

Gulf

Olympia

Pacific

South American

Scallops:

Bay

Calico

Sea

bixin (annatto extract) A yellow to peach coloring material obtained by extracting the seed of *Bixa orellana* tree

biza A cottage cheese, containing garlic and onion or carob, made from sheep's milk

bjorpylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium-seasoned beef and pork, with pork fat added, stuffed into an artificial casing

bjorskinka A moist, cooked, unsmoked Icelandic sausage made from finely chopped, medium-seasoned pork, with pork fat added, stuffed into an artificial casing

Bk Symbol for the element berkelium

bla castello A blue-mold, high-fat, semisoft cheese with white surface mold

black and gray fleece Wood containing some dark fibers; cannot be used for making light-colored fabric

Black and White See **Holstein-Friesian**

black and white bass See **sea bass**

black apple See **Australian native plum**

blackback See **flounder**

blackberry (*Rubus allegheniensis*) A prickly (there are thornless sports) climbing plant that produces a fruit composed of a large number of one-seeded drupelets that are closely set together on a core; the fruit is borne in clusters at the ends of older shoots; the berries are consumed fresh, canned, frozen

(whole, with or without sugar or syrup), made into jam, and made into wine. Plant may be an erect cane or a trailing vine; bearing age 2 yr; average yield 3–6 lb/plant; good shipper if not overripe; ripens in early summer. Blackberry leaf is sometimes used for a tea tonic.

Major types:

Dewberry (trailing vine)—milder flavor

Upright

Wild—not as sweet

Judging ripeness:

Underripe—green or red

Ripe—lustrous black (there is also a white variety)

Overripe—dull black or gray

Canned forms available:

In light syrup

In water

Ready-to-use pie filling

100 lb, fresh = 16–20 lb, dried

1 crate, fresh = 24 qt

= 32–36 qt, frozen

= 12–18 qt, canned

1 chip box crate = 16 qt

= 22 lb

1 pt, frozen = 1.3–1.5 pt, fresh

1 lb, fresh = 1 qt, fresh

= 5 servings

1 cup, canned = 8.6–9.2 oz

Variety	New Canes (originate below crown)	Time of ripening	Hardiness	Harvest duration	Plant characteristics	Area (U.S.)
Thornless:						
Austin Thornless	Thornless	Early	Moderate	10–15 days	Berry is large, round, black; good flavor; moderate production	South
Black Satin	Thornless	Midseason	Hardy	3–4 weeks	Berry is med.-large, firm, black; good flavor; very productive	Southern Midwest, Pacific Northwest
Cory Thornless		Midseason	Less hardy	10–15 days	Berry is large, black, sweet, soft; fairly productive	Pacific Coast
Dirksen Thornless	Thornless	Midseason	Hardy	3 weeks	Berry is med.-large, firm, black; good flavor; very productive	Southern Midwest, Pacific Northwest
Smoothstem	Thornless	Late	Moderate	1 month	Berry is med.-large, black; good flavor; very productive, vigorous	Mid.-Atlantic Coast
Thornfree	Thornless	Late June	Hardy	1 month	Berry is med.-firm, black; good flavor; very productive	Northeast, Pacific Northwest
Thornless Boysen		Midseason	Moderate	10–15 days	Berry is large, soft, wine-colored, very sweet; fairly productive	South, Pacific Coast
Thornless Evergreen	Thorned	Late	Hardy	1 month	Berry is large, exceptionally firm, sweet, black; productive	Pacific Northwest
Thornless Logan	Thorned	Early	Less hardy	10–15 days	Berry is large, long, reddish, acid, high flavor; very productive	Pacific Coast
Thornless Young	Thorned	Early	Moderate	10–15 days	Berry is large, soft, wine-colored, very sweet; fairly productive	South, Pacific states
With thorns: Darrow	Thorned	Early		Long	Large berry; tall and erect; heavy producer	

86 blackberry (*Rubus allegheniensis*)

1 cup, fresh = 144 g

= 5.2 oz

1 serving, fresh = 0.75 cup

Composition: moisture 85%; protein 1%; fat 1%; carbohydrate 12%; vitamin A 200 IU/100 g; ascorbic acid 21 mg/100 g; pH 3.2–4.5 (3.5 avg.)

Defect action level:

Average microscopic mold count of 60%

Average 4 larvae/500 g or average of 10 insects (larvae or other insects) per 500 g (excluding thrips, aphids and mites)

Storage: Do not wash; refrigerate; use in 1–2 days.

See Part 2: Fruit Harvest Dates; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Minerals, Food; Plant Foods, Composition; Storage; Sugar, Fruit; Wine, Sweet

blackberry, canned In addition to blackberries, may also contain natural and artificial flavors

In syrup:

Extra light (< 14% sucrose)

Light (14–19% sucrose)

Heavy (19–24% sucrose)

Extra heavy (24–35% sucrose)

blackberry jelly

1 tbsp = 20 g

blackberry juice

1 cup = 8.6 oz

blackbird oats See wild rice

black bread See rye

black bryony (*Tamus communis*) A climbing gourd whose young shoots are edible and used like asparagus

black cap See raspberry

black chaff (*Xanthomonas translucens*) A bacterial disease of wheat that can affect any aboveground part of the plant

black cherry aphid (*Myzus cerasi*) A tiny, black, shiny insect that often slows the growth of cherries

black cod (*Erilepis zonifer*) A food fish; market name for sablefish

black cumin (fennel flower; *Nigella sativa*) A spice; used as a pepper substitute

black currant A bush fruit that is made into jams, jellies, pies, and puddings and is used to flavor ice cream, gin, and liquor

black diamond A cheddar-type cheese

black drum A light-meat finfish with light to moderate flavor

black end See hard end

black-eyed bean Asparagus bean See pea, black-eye

black-eyed pea Cowpea See cowpea; pea, black-eye

See Part 2: Beans, Peas, and Nuts

Blackface Hampshire, Oxford, and Shropshire sheep or lambs sired by a ram of one of these breeds

Black-faced Highland A long-fleece breed of sheep originating in Scotland
See Part 2: Sheep Breeds

blackfish (oyster fish; tautog; Labridae) An Atlantic coast fish weighing up to 20 lb See sea bass

black fly A pest that attacks many vegetable, weed, and hedge plants. Destroying its breeding areas is necessary for control.

black forest ham A country-cured style of ham produced in Germany

black forest schinkenspeck The sirloin butt area of the ham, mildly cured and smoked for 3 days

black grain stem sawfly (*Cephus tabidus*) An insect that attacks wheat

black gram (urd; woolly pyrol; *Phaseolus mungo*)
A hairy plant (pulse) that has a pod that contains up to 10 black seeds with a white hilum; harvested in 4 months See bean, urd; urdbean

Parts of plant	Used for
Dry seed	Human food (pulse)
Total plant	Green manure
Young pods	Boiled and eaten

black grouper See grouper

black haw (sheepberry; slag-bush; *Viburnum prunifolium*, *V. rufidum*) A bush bearing a bluish black edible fruit ($\frac{3}{8}$ – $\frac{1}{2}$ in.) that is flat to spherical with a single pit and that is used to make jams and jellies and to flavor cordials

black knot A fungal disease of plum, prune, and cherry trees that causes a corky swelling on limbs and twigs

Control: Remove infected and wild trees; use a fungicide spray

Black Leaf 40 An insecticide that is a 40% solution of nicotine sulfate

black lovage See alexanders

black neck rot See thielaviopsis stalk rot

black pepper See pepper

black pit A disease of citrus fruit caused by *Pseudomonas syringae*. It appears as brown- or black-colored, sunken rind spots from $\frac{1}{4}$ - to $\frac{1}{2}$ -in. diam.

black plate Low-carbon steel without a metallic coating

black point A disease of wheat that discolors the grain; caused by *Helminthosporium* spp., *Alternaria* spp., and others

black pudding (blood sausage) A sausage made of fat, sheep's or pig's blood, and seasoning. 1) A moist, cooked, unsmoked British sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef, lamb, pork, veal, and goat stuffed into beef, pork, or artificial casings. 2) A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned pork stuffed into artificial casing

black pudding rings A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned beef, lamb, and pork stuffed into beef, pork, or artificial casings

black rice See wild rice

black root See **black rot**

black root rot The general name given for several root problems in strawberries

Control: Use only healthy white-rooted plants.

black rot 1) Egg yolk that becomes black, hard, and solid, evolving hydrogen sulfide; albumin becomes liquefied, granular, and dark in color. 2) A sweet-potato disease (black root, black shank, *Ceratocystis fimbriata*) that may occur on any underground part of the plant and that produces black, sunken spots on the surface of the sweet potato. It may start in the field but can continue during storage. 3) An American bunch-grape fungal disease that affects the leaves (brown spot with black border) and fruit (brown spots, rot of entire berry, black wrinkled mummies)

Control: Remove infected portions; maintain good air circulation; use several applications of a fungicide.

4) A fungus that affects the leaves (spots with $\frac{1}{8}$ - to $\frac{1}{4}$ -in. diam. and an irregular purple margin), fruit (brown to black rot with light and dark bands at blossom end), and branches (cankers) of apple and pear trees

Control: Remove infected branches and fruit; adequate pruning and fertilization; use fungicide spray.

5) A fungus (*Alternaria citri*) found on oranges, grapefruit, and tangerines; the cut fruit shows an internal rather solid black rot at either the stem or stylar end. See **alternaria rot**. 6) Rot (soft rot, water blister, water rot) in pineapple caused by the fungi *Ceratocystis paradoxa* (imperfect stage) and *Thielaviopsis paradoxa*. Rot originates in the base or at injuries, with the fruit tissue having a brown, water-soaked, soft appearance and a sweetish odor often with no external appearance of decay. See **brown rot**

Control: fungicides and refrigeration (45°F)

black salsify See **scorzonera**

black sapota See **persimmon**

blacksberg A red or white wine

black sea bass A finfish with darker meat and light to moderate flavor See **sea bass**

black seed A strawberry disease caused by a fungus (*Mycosphaerella fragariae*). The disease appears only on ripe berries. Application of a fungicide will help in prevention; also, proper spacing and correct timing of fertilizer application are helpful

black shank See **black rot**

black spot See **anthracnose**; **brown rot**

blackstem rust A fungal disease due to *Puccinia graminis tritici*

blackstrap molasses A molasses from which most of the sugar has been removed; it is dark in color, strong in flavor, high in ash content, and used for fermentation purposes. It contains 30% sucrose, 20% reducing sugars, 20% nonsugars, 20% water, and 10% ash. See also **molasses**

See Part 2: Sugars and Sweets, Composition

black stripe A hot or cold beverage made by mixing molasses, rum, and nutmeg

black tea Tea made from leaves that have been fermented (oxidized) to darken the leaves and soften the

flavor before being steamed, rolled, and dried. The beverage has an amber color and rich aroma and flavor, and is less bitter and astringent than green tea. See also **tea**

Types:

Assam—a strong, pungent, brisk flavor and mellow body

Backsettler—a hearty, brisk flavor

Breakfast—mixes well with milk

Darjeeling—reddish color and fragrant aroma

English breakfast—med.-black color and med. strength

Flowery pekoe

Indian—delicate flavor

Irish blend (Assam and high-grown Sri Lanka)—strong, full body

Keemun (English breakfast)—rich, aromatic, smooth flavor and light body

Kenya BP—broken pekoe

Lapsang souchong—smokey aroma and taste, slate gray color, and med. body

Orange pekoe—flowery light body and mild, clear taste

Pamir tura—coppery color, flavorful, and mild taste

Pekoe

Russian caravan—broken orange pekoe, strong, heavy-bodied tea, usually weakened with hot water and consumed with sugar and lemon

Souchon

Yunnan FOP—light character, fragrant, and smooth

black teeth Long tusks of young pigs

black tongue A deficiency disease in dogs due to improper diet. See also **pellagra**

black turtle soup, bean See **bean, black**

black walnut (*Juglans nigra*) A tall North American tree grown for lumber and nuts; the nuts are larger but shells are thicker than European walnuts; the nut flavor is strong and is used in confectionery and ice cream. See also **walnut**

Variety	Tree		Nut	
Old Fashioned	100–150 ft, fast-growing, long-lived		Rich	
Shellbark (Kingnut)	40 ft, hardy		Easily shelled	
Hickory				
Thomas	40 ft		Large, thinner shell	
Nut production/ tree-yr				
Improved varieties	5–6 yr	15–20 yr	Shell thickness	Disease resistance
Myers	$\frac{1}{8}$ bu	1 bu	Thinnest	Med.
Ohio	$\frac{1}{4}$ bu	2 bu	Thin	Most
Thomas	$\frac{1}{4}$ bu	2 bu	Thin	Least

Harvesting: Allowing nuts to lie on the ground discolors the kernels and makes flavor even stronger

1. Remove hulls after nuts fall

2. Wash

3. Dry 2–3 weeks

88 black walnut (*Juglans nigra*)

4. Store in cool, dry place until needed

1 bu, in shell = 50 lb

8½ lb, in shell = 1 lb, shelled

1 lb, in shell = 1½ cups, nutmeats

1 lb shelled walnuts = 4 cups, nutmeats

black walnut flavoring Synthetic flavor mixed with some natural oil, alcohol, and water

bladder 1) A hollow sac within the body that serves one or more functional purposes, e.g., gall bladder, urinary bladder. 2) Any similar structure in plants
See Part 2: Casings, Animal; Casing, Terms; Organ Weights

bladder pod See Part 2: Poisonous Plants

bladder wrack (bladder fucus; cutweed; kelp-ware; sea wrack) A seaweed found on the British Coast and used as a herb

blade 1) An expanded leaf or petal. 2) Natural or unground form of spices, herbs, or grain. 3) A cut of meat from the chuck area containing parts of the blade and ribs bones

See Part 2: Beef Chuck; Beef Cuts; Beef Retail Yield; Beef Rib Nomenclature; Bone; Bone in Retail Cuts; Meat Identification; Meat Label; Pork Cooking Methods; Pork Loin Nomenclature; Pork Shoulder; Pork Yield; Veal Chart; Veal Cuts; Veal Wholesale Cuts

bladebone See *scapula*

See Part 2: Beef Wholesale Cuts; Lamb Wholesale Cuts; Pork Wholesale Cuts

bladebone steak meat See *clear cut shoulder*

blade rib roast See *chuck rib roast*

blaeberry See *bilberry*

blanch 1) Blanch (scald)—To place in boiling or hot water, live steam or hot gas, or steaming, sauteing, or stewing to loosen skin, set color, or remove color; this inactivates enzymes that are capable of causing quality (e.g., texture, color, taste, appearance) deterioration during storage. Almost all vegetables and some fruits are blanched prior to freezing. Starchy foods are blanched to remove surface starch and to prevent sticking. 2) To place earth around or otherwise protect from light (e.g., to gather leaves together) to produce white stalks or leaves from green; self-blanching varieties have leaves that curl around the plant.

blanchaille See *white bait*

blanc mange A thickened, molded milk dessert made from arrowroot, cornstarch, or Irish moss. From French “white food” (*manger* = eat).
See Part 2: Cornstarch Pudding Variations

bland Having no distinctive taste or odor

blanket order A long-term commitment to a vendor for material against which short-term releases will be generated to satisfy requirements

blanquette A chicken, lamb or veal stew made with creamy white sauce, egg yolks, and lemon juice and often flavored with onions and mushrooms

blanquillo (*Branchiostegus* spp.) A food fish

blarney 1) A semihard, Irish cheese with small “eyes” and a red coating. 2) A pale yellow, Swiss cheese made from cow’s milk

-blast- A prefix or suffix meaning bud or child

blast (rottenneck) A rice disease caused by a fungus (*Pyricularia oryzae* Cav.) that produces narrow, spindle-shaped lesions on leaves of young rice plants.

Control: planting resistant varieties of stock, early seeding, flooding, or fungicides

blatina A red wine

Blaye Red and some white wines produced on the north bank of the Gironde River in the Bordeaux region (southwest France), e.g., Côte de Blaye, blayais

bleach To remove color from an oil; agents used are activated carbon, activated clay, diatomaceous earth, and fuller’s earth.

See Part 2: Margarine Production

bleaching Reducing the amount of coloring material; e.g., activated charcoal or diatomaceous (fuller’s) earth may be used in oil

bleaching agent 1) A compound that will reduce color; e.g., in flour, yellowish color reduced to white and in, milk, grass feed causes a buff-colored milk that can be whitened with benzoyl peroxide. 2) A substance that accelerates the ageing process; improves baking qualities

bleaching powder (chlorinated lime) Calcium oxychloride (CaOCl₂); contains from 24 to 37% available chlorine

bleeders Openings in a retort that when open allow removal of air

bleeding Causing blood to flow from an animal; exsanguination

blemish A mark, injury, or deformity of the skin or adjacent tissue that would mar the appearance but not impair the usefulness of an animal

blend 1) A “ready-to-use blend” or “complete blend” is a mixture of all seasonings (e.g., salt, sugar, spices). 2) To combine well; to mix thoroughly

blended A good balance of flavor character notes in the proper order and with no unpleasant aftertaste; e.g., coffee, tea, whiskey, wine

blended credit A financing plan for export sales. Government credit guarantees, at lower interest rates, are blended with commercial credit to provide lower interest rates and favorable terms for foreign buyers

blended whiskey Mixture of two or more straight whiskeys (100 proof) or of straight whiskey with silent spirit or water; caramel is usually added

blend price The price paid for milk based on its class

blenio A Swiss cheese made from cow’s milk

blenny (*Enedrias nebulosus*) A food fish

bleu Blue cheese

bleu cheese See *blue cheese*

bleu d’Auvergne (bleu de salers) A strong-flavored, blue-veined, unpressed, uncooked, mild, Roquefort-type blue cheese made from cow’s milk and with no rind

bleu de basillac A Roquefort-type blue cheese

bleu de Bresse An unpressed (4 in. across), uncooked, creamy, blue-veined cheese made from cow’s

- milk; it has a thin rind and a soft mottled texture and is milder-flavored than most bleu cheeses (but still strong); 50% fat on a dry-weight basis
- bleu de Haut-Jura** A semihard, mill-stone-shaped, white cheese with blue veins and yellow or red rind
- bleu de laqueuille** A pungent blue cheese made from cow's milk and similar to a mild Roquefort but with a harder crust
- bleu de l'Aveyron** A blue-veined cheese aged in caves
- bleu de londes** A low-fat blue cheese made from cow's milk
- bleu de pelouse** A high-fat blue cheese made from cow's milk
- bleu de Quercy** A blue cheese made from cow's milk
- bleu de sassenage** A semihard, cylindrical (1–4.5 lb), blue-veined cheese made from cow's milk
- bleu des Causses** A sharp, rich, creamy-textured, blue-veined, unpressed, uncooked, blue cheese that is made from cow's milk and is aged in humid cellars or caves; it is gold-foil wrapped and weighs about 5 lb.
- bleu de septmoncel** A blue cheese made from cow's milk
- bleu de thiezac** A blue cheese made from cow's milk and aged in humid cellars
- bleu de tignes** A blue cheese made from cow's milk
- bleu de velay** A low-fat blue cheese made from cow's milk
- bleu di Sainte Foy** A blue cheese made from cow's milk
- bleu du Haut-Jura (bleu de gex; gex)** A cow's-milk blue cheese with white paste center and a yellow-red rind
- blewits (*Lepista*)** An edible fungus that has a mushroom shape with a gray or brown cap
- blight** A disease that causes all or a part of a plant to wither and die
- blinchki** Thin pancake
- blind end** Closed at one end
See Part 2: Casings, Hogs and Beef; Casings, Terms
- blini** A buckwheat pancake
- blintze** A pancake rolled around meat, cheese, or fruit and served with sour cream, applesauce, or jam
- bliny** Buckwheat pancakes consumed with butter or sour cream
- blister beetle** A slender beetle, about four times as long as wide, with conspicuous head and neck, long legs and antennae, and soft wing covers. These beetles often swarm into sugar beet fields, strip the plants, and leave as suddenly as they came.
Insecticide: parathion, ethyl
- blister package** Contains the product in a rigid dome, or bubble, of plastic mounted on paperboard
- bloat** A condition caused by failure to eliminate normal gases from the rumen; distention of the rumen or the large colon by gas; usually occurs after placing on lush pasture; swelling high above the left flank, unsteady gait, causing the animal to fall
- bloater** 1) A herring (fish) that has received a medium salt cure and has been smoked overnight. 2) A large, fat mackerel. 3) Golden cure. 4) A freshwater whitefish (*Coregonus hoyi*)
- bloater paste** A mixture of $\frac{2}{3}$ parts mashed bloaters and $\frac{1}{3}$ butter
- block edam cheese** Same as edam except that it is made in the shape of a rectangle or cube
- blockwurst** 1) A semidry type of American sausage with a maximum moisture-protein ratio (MPR) of 3.7:1. 2) A dry, uncooked, smoked or unsmoked Swiss sausage made from medium- or coarsely chopped, heavily seasoned beef and pork stuffed into a beef, an artificial, or no casing
- blocky** Deep, compact, wide, and low-set
- bloderkäse** A low-fat, high-protein, cube-shaped, semisoft cheese with the surface covered with bacterial smear
- blodkorv** A moist, cooked, unsmoked, finely chopped Swedish sausage made from mildly seasoned, blood, fat, and rye flour stuffed into an artificial casing
- blodpølse m rosiner** A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, medium-seasoned, pork with blood and raisins added, and stuffed into an artificial casing
- bloedworst** 1) A moist, cooked, unsmoked Dutch sausage made from medium-seasoned beef blood with coarsely chopped fat, and stuffed into a beef or an artificial casing. 2) A moist, cooked, unsmoked Belgian sausage made from medium-seasoned beef with pig's blood and stuffed into beef or pork casings
- Blonde (Blonde d'Aquitaine)** A yellow- to fawn-colored French breed of cattle known for its rate of gain. Developed from three strains: Garonnaise, Pyrénéenne, Quercy
- Blonde d'Aquitaine** A dual purpose (draught and beef), light to dark wheat-colored cattle from southwestern France
- blood** Red fluid tissue circulated by the heart; transports oxygen, carbon dioxide, nutrients, and waste products. Buffering system compounds HCO_3^- , H_2CO_3 , HPO_4^{2-} , H_2PO_4^- ;
- $$\text{hemoglobin} + \text{acid } \text{H}^+ + \text{HCO}_3^- \rightarrow$$
- $$\text{H}_2\text{CO}_3 + \text{base } \text{OH}^- + \text{H}_2\text{CO}_3 \rightarrow \text{H}_2\text{O} + \text{HCO}_3^-$$
- The volume obtained on slaughtering is as follows:
- | Species | Avg. volume (approx.
50–75% of total
volume) lb |
|---------|---|
| Cattle | 30 |
| Sheep | 4–5 |
| Pigs | 5–8 |
- Normal pH range 7.3–7.5
 $a_w = 0.995$
 Physiological saline = 0.85% salt
 If calories are needed = 5% glucose
 1 lb green blood = 0.2 lb dry blood

To remove stain from cloth: Soak in cold water and an enzyme product, and bleach if needed.

See Part 2: Blood; Gland Weights; Minerals, Plant or Animal Tissue; Moisture in Biological Materials; Organ Weights; pH Values of Biological Materials

blood agar See **agar-agar**

See Part 2: Microorganism, Media

blood albumin Blood serum that has been clarified and dried See also **albumin**

blood and tongue pudding A moist, cooked, smoked or unsmoked, jellied and/or specialty American sausage made from fine to chunky, mildly seasoned beef, lamb, and pork with certified beef blood and with cooked and cured lamb, pork, and/or beef tongue and stuffed into a beef or an artificial casing or into pans. The product is available in rings or loaves.

blood and tongue sausage Cooked and cured lamb, pork, or beef tongue placed lengthwise in the center of a roll of pork or beef blood sausage

blood bread A mixture of blood, flour, and fat; it is cooked, sliced, and fried

blood, dried Can be used as a fairly rapid-release nitrogen fertilizer

blood flour Dried blood in fine powder form
Composition (spray dehydrated blood): dry matter 93%; protein 86%; crude fiber 1%; fat 1.3%; ash 6.6%

blood meal Dried ground blood; approximately 85% protein

blood molasses A red syrup obtained from beet sugar extract

blood orange A sweet orange in which the flesh has blood-red streaks

blood pudding Similar to blood sausage except it contains no skeletal meat See **black pudding**

blood pudding, morcella 1) A nonspecific product made from pork, pork fat, and beef or pork blood. 2) A moist, cooked, unsmoked, mildly seasoned Uruguayan sausage made with pork blood, pork fat, pork skin, and vegetables and stuffed into a beef or pork casing

blood sausage (blutwurst) 1) A cooked, dark red sausage containing meat (often head or jowl) and cooked pork or beef blood; cooked pork sausage with beef blood. 2) A moist, cooked, smoked or unsmoked, jellied and/or specialty American sausage made from fine- to coarse-chopped, mildly seasoned beef and pork; made with only certified blood, some meat, and pork skins, lips, snouts, ears, jowls, and pickled ham fat, and stuffed into a beef, pork, or an artificial casing. The product is available in rings or loaves. 3) A sausage made from the following:

Beef blood
Diced cooked fat pork
Finely ground cooked meat
Gelatin-producing materials
Spices

4) Other types: French (brandy added); Italian (raisins added)

Composition: moisture 47%; protein 14.6%; fat 34%; carbohydrate 1.3%; ash 2.3%

See **black pudding**

blood system See **American system**

blood vessel A tube that transports blood through the body, i.e., an artery or a vein

bloodwort (*Rumex sanguineus*) A dock used as a herb; the leaves may be cooked like spinach

bloodwurst A moist, cooked, Australian sausage

Bloody Mary An alcoholic beverage made from

3 oz (2 jiggers) tomato juice

$\frac{1}{2}$ oz ($\frac{1}{3}$ jigger) lemon juice

Dash of Worcestershire sauce

$1\frac{1}{2}$ oz (1 jigger) vodka

Salt and pepper to taste

shaken with ice and strained, or from the following:

$1\frac{1}{2}$ cups cocktail vegetable juice

$\frac{1}{4}$ cup plus 2 tbsp of vodka

$\frac{1}{2}$ tsp Worcestershire sauce

$\frac{1}{8}$ tsp hot sauce

$\frac{1}{4}$ tsp lime juice

Dash of pepper

bloom 1) Bright red color (oxmyoglobin) of meat when it is fresh See also **fat bloom**. 2) White appearance on the surface of chocolate caused by fat changing form or diffusing out of the product. 3) Surface color of grapes or peaches; powdery covering on fruit after picking. 4) Crust color on bread

bloomer French bread made in England

blossom blight See **pseudomonas blight**

blossom end The end opposite the stem end. The stem end will have a scar or the remains of the stem; the blossom end is usually more rounded than the stem end.

blossom end decline See **endoxerosis**

blossom end rot A physiological disorder (rot) in tomatoes; a small, water-soaked spot first develops at or near the stem end of infected tomatoes. The spot enlarges and darkens, becoming sunken and leathery. Most prevalent during stress, e.g., long dry periods or after unusually abundant rain.

Control: Apply proper amounts of lime and super phosphate. Avoid excessive use of nitrogen fertilizers.

blotch See **cercospora spot**

blow-up test A container test in which pressure is applied until the side seam gives away

blubber Unrendered fat from whales or other aquatic animals

blue (bleu) A semihard, Danish or French, white cheese that contains veins of blue mold, has a zesty flavor, and is made from whole (cow's) milk

Ripening time: 2 months min.; 3-4 months usually; 9 months, pronounced flavor

It is used in salads and dressings and as a dessert cheese.

1 cup, crumbled = 4-4.8 oz

1-in. cube = 0.6 oz

Composition: moisture 42-43%; protein 21-22%; fat 28-29%; carbohydrate 2-3%; fiber 0%; ash 5-5.5%

See also **blue cheese**

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

Rabbiteye variety (very tall)	Area	Season	Yield	Berry size	Flavor	Color
Bluebelle	South; Southwest	Late midseason	High	Large	Fair	Dark
Bluegem	South; Southwest	Early midseason	Average	Medium	Fair	Light
Briteblue	South; Southwest	Early midseason	Low	Med.	Average	Med.
Climax	South; Southwest	Early midseason	Low	Large	Good	Med.
Delite	South; Southwest	Early midseason	Average	Small	Average	Med.
Garden Blue	South; Southwest	Late Midseason	Average	Med.	Good	Dark
Homebell	Ohio Valley; Southwest	Late	Average	Large	Fair	Dark
Menditoo	Ohio Valley; Southwest	Midseason	High	Small	Average	Light
Southland	South; Southwest	Late midseason	High	Small	Average	Light
Tifblue	South; Southwest	Early	Large	Med.	Good	Med.
Woodard	South; Southwest	Early	Large	Med.	Good	Med.

Blue Andalusian A mediterranean class of chicken that lays a white-shelled egg

blueback A Maine trout; a Columbia salmon; a river herring

See Part 2: Salmon and Trout

blueberry (*Vaccinium nitidum*) A shrub that bears a bluish black fruit that is used in pies, stewed with sugar, or in puddings. Types are highbush and lowbush, the latter usually being smaller and of lighter color.

Canada, *V. myrtilloides*

Dryland (low huckleberry), *V. pallidum* and *V. altomontanum*

Evergreen (evergreen, box, or coast huckleberry), *V. ovatum*

Highbush, *V. australe* and *V. corymbosum*

Lowbush, *V. lamarchii*

Mountain (broadleaved huckleberry), *V. membranaceum*

Rabbiteye, *V. ashei*

Wild highbush, *V. altomontanum* and *V. constablaei*

Grown on acid soil (pH 4.3–4.8); berry pH 3.7; bearing age 3 yr; yield per plant 6 lb; the silvery bloom is a natural, protective waxy coating. The berry is larger and sweeter than huckleberry, with very small seeds. Grown in wide range of climates. Ripens in June to August

Canned styles are available packed in light syrup or water and as ready-to-use pie filling; also available frozen whole.

1 24-qt crate, fresh = 12–18 qt, canned
= 32–36 pt, frozen

Highbush variety	Area	Season	Fruit cluster	Berry size	Flavor	Color	Uses
Angola	Mountain and Upper Piedmont of the South; New England	Early	Loose	Medium	Good	Dark	
Berkeley		Late midseason	Loose	Very large	Good, mild	Light blue	
Bluecrop	Mountain and Upper Piedmont of the South; New England	Midseason	Loose	Large	Good	Light blue	
Bluehaven		Midseason	Tight	Large	Mild	Light blue	
Blueray	Great Lakes states; New England	Midseason	Med. tight	Very large	Excellent	Light blue	
Bluetta	Mountain and Upper Piedmont of the South; New England	Early		Med. large	Good	Light blue	
Burlington	Middle Atlantic states		Med. tight	Small	Good	Blue	

Continued

92 blue (bleu)

Highbush variety	Area	Season	Fruit cluster	Berry size	Flavor	Color	Uses
Collins	Great Lakes states; New England	Midseason	Med. tight	Med. large	Excellent	Light blue	
Coville		Late	Loose	Very large	Good, tart	Light blue	Frozen, pies, preserves, fresh
Croatan	Mountain and Upper Piedmont of the South; Southwest		Loose	Med. to large	Good	Dark blue	
Darrow	Middle Atlantic states			Large	Excellent	Light blue	
Dixi	Middle Atlantic states	Late	Med. tight	Large	Excellent (does not hold up well)	Blue	
Earliblue		Early	Loose	Large	Good	Light blue	Fresh, frozen, pies
Elizabeth			Loose	Large	Good; high dessert quality	Light blue	
Elliott	Middle Atlantic states	Late	Loose	Med.	Good	Light blue	
Floridablue	South, Southwest	Late April					
Harrison	Mountain and Upper Piedmont of the South; Southwest			Large			
Herbert		Midseason, July	Loose	Very large; 1 in.	Excellent; highest dessert quality	Med. blue	
Jersey		Late	Very loose	Med. large	Fair	Light blue	Fresh, baked
Lateblue	Mountain and Upper Piedmont of the South	Late	Loose	Med.	Good		
Meador	Great Lakes states; New England	Midseason	Loose	Med.	Subacid		
Morrow	Ohio Valley; Southwest Mountain; Upper Piedmont	Very early		Large	Good	Med. blue	
Murphy	Mountain and Upper Piedmont of the South; Southwest		Loose	Med.	Fair	Dark blue	
Patriot	Mountains of the Piedmont; New England						
Rancocas			Very tight	Small	Good	Med. blue	
Rubel			Very loose	Small	Fair	Med. blue	
Sharpblue	South; Southwest	Late April	Med. loose	Large	Poor	Dark blue	
Weymouth							
Wolcott			Loose	Med.	Good	Dark blue	

1 qt, fresh = 6–10 servings
 1 lb, fresh = 2–4 cups
 = 5 servings
 1 pt, fresh = 11–13 oz, frozen
 = 4–5 servings
 1 pt, frozen = 1.3–1.5 pt, fresh
 10 oz, frozen = 2–4 servings
 1 cup, fresh = 145 g (5.2 oz)
 1 cup, canned, solids and liquids = 8.6–8.8 oz
 1 serving = 0.5–0.7 cups

Storage (fresh): unwashed in refrigerator (1 week) or unwashed at room temperature (2–3 days)

Storage (frozen): Do not wash prior to freezing; hold at 0°F for up to 2 yr.

See **bilberry**

See Part 2: Blueberry Production; Fruit, Availability; Fruit Harvest Dates; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Fruit Servings per Pound; Minerals, Food; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Standards, Processed Fruit and Vegetable Products; Sugar, Fruit; Wine Sweet

blueberry, canned In addition to blueberries, may also contain natural and artificial flavors

Syrups:

Extra light (< 15% sucrose)
 Light (15–20% sucrose)
 Heavy (20–25% sucrose)
 Extra heavy (25–35% sucrose)

blueberry maggot A fly larva whose host is the blueberry; damage caused by larvae feeding inside berries

Control: insecticide

blueberry pie Composition: 163 mg Na/ $\frac{1}{8}$ pie (71 g) $\frac{1}{8}$ of 9-in. pie = 285 calories

See Part 2: Grain Products, Composition

bluebonnet (*Lupinus*) A silky annual leguminous herb that grows in the southwestern United States
 See Part 2: Poisonous Plants

blue channel See **catfish**

blue cheese A white, semisoft to semihard, full-fat, cow's milk cheese with internal blue mold, matured to give a piquant flavor. It is an attempt to duplicate the French Roquefort made from the milk of sheep; it is usually in a wheel shape, has a piquant spicy flavor, and is ripened by internal mold (*Penicillium roquefortii*).

1 cup, crumbled = 4 oz

Composition: moisture 40–42%; protein 21–22%; fat 28–31%; carbohydrate 2%; ash 5–6%; salt 4%; 396 mg Na/oz (28 g); 100 calories/oz (28 g) or 60 calories per 1-in. cube

Storage: can be frozen (0°F) in small quantities if used for salads or dressings; use in 6 months

Other blue-veined cheeses are danablu, gorgonzola, Roquefort, and stilton. See **blue**

blue cheese, dressing Composition: 153 mg Na/tbsp (15 oz)

See Part 2: Fats and Oils, Composition

blue cheshire cheese A red cheshire cheese that is made from cow's milk and has blue veins caused by *Penicillium glaucum*

blue de Bresse A cow's-milk blue cheese with a blue rind

blue de Gex A blue cheese

blue dorset A white, hard, blue-veined cheese made from skimmed milk

Bluefaced Leicester A large, fertile breed of English sheep used in crossing

bluefin See **tuna**

bluefin tuna (*Thunnus thynnus*) A black-finned tuna (tunny); a food fish

bluefish (blue snapper; fatback; skipjack; skip-mackerel; snapping mackerel; tailor) A general term applied to many types of dark or bluish fishes, such as *Pomatomus saltatrix* (Atlantic coast), *Labridae* (Florida and West Indies), pollack, cunner, and sea bass. A saltwater, dark (gray) finfish with chewy, firm, moist meat and light to moderate flavor, found around the world; contains 3.8% fat

See Part 2: Fish and Shellfish, Composition; Minerals, Food

bluefort A blue-veined cheese made from cow's milk

bluegill (sunfish; *Lepomis macrochirus*, synonym *Helioperca incisor*) A food fish See **perch; sunfish**

bluegrass (Kentucky; common; *Poa pratensis*) A perennial grass used for pasture and lawns; 15–22 lb/bu; plant 2–10 lb/acre; pH 6.0–6.8

See Part 2: Nutrients in Crops; Seed, Germination

bluegrass, Canada (*Poa compressa*) Matures later and is lower in yield than Kentucky bluegrass

bluegrass, roughstalk (Danish bluegrass; *Poa trivialis*) More tolerant of shade and moisture than Kentucky bluegrass

Blue Lake A green bean variety grown in the northwestern United States

blue mackerel See **mackerel**

blue-mold rot (blue-contact mold) 1) A citrus fruit rot, caused by *Penicillium italicum*, that develops in the following stages:

Pinhole rot—spots, $\frac{1}{4}$ to $\frac{1}{2}$ -in. diam.

Blister rot—spots $1\frac{1}{2}$ to 2-in. diam.

Spore growth

Control: Refrigeration of fruit at 40 to 45°F almost completely retards growth

2) A rot of figs, caused by *Penicillium* spp., that is blue-green in color and slightly softens the tissue See **penicillium rot**

blue No. 1 An FD & C food color additive

blue plate A plate with partitions to keep food separated

blue stem See **stem rot**

blue stem cattle Cattle from 1) Osage of Oklahoma or 2) Flint hills of Kansas

bluestone ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) Cupric sulfate

blue vein Blue cheese

blue vinny (blue vinid; dorset blue) A low-fat, flat, hard, white, English cheese that has blue horizontal veins and is made from cow's milk

blue walleye (*Stizostedion vitreum glaucum*) A blue pike; a food fish

blue wensleydale A blue cheese made from cow's milk

blushing Milky appearance of a can coating, due to absorption of water

blutwurst (blood sausage; leberwurst) A moist or semidry, cooked or uncooked, smoked or unsmoked Swiss sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef, pork, and veal (may have blood added) stuffed into a beef, pork, or an artificial casing *See blood sausage*

See Part 2: Sausage Identification

BOA *See biological oxygen demand*

boal A red Madeira wine *See bual*

boar Porcine: an uncastrated male pig or hog
See Part 2: Meat and Meat Products, Composition; Swine, Market Classes and Grades

board foot A measure of lumber

$$\text{board foot} = \frac{1}{12} [\text{width (inches)} \times \text{thickness (inches)} \\ \times \text{length (feet)}]$$

$$1 \text{ board foot} = 144 \text{ cubic inches (in.}^3\text{)} \\ = 0.0024 \text{ cubic meter (m}^3\text{)}$$

boar odor An objectionable sex odor of mature male swine. It is caused by a normal metabolite of male sex hormone. The chemical responsible for the odor is 5 α -androst-16-en-3-one and it can be detected by most females and approximately 50% of males. Early castration eliminates the problem.

bob veal Carcass of immature veal; the animal is usually less than 21 days of age.

bob white (*Colinus virginianus*) An edible quail or partridge *See quail*

bocchini A small, provolone-type cheese

bock beer A dark, strongly alcoholic, sweet beer brewed in winter and served in the spring

bocksbeutel A flagon-shaped (bulging bottle) bottle *See franconia*

bockwurst An uncured, unsmoked, imitation sausage made from medium- to coarsely chopped veal and pork, sometimes with beef and a substantial proportion of milk (whole milk, dried milk, nonfat dried milk, or calcium-reduced dried skim milk). It often contains eggs (fresh, frozen, or dried) and vegetables (onions, chives, parsley, leeks, and celery); min. 70% meat and max. 3.5% binders. May be sold fresh or partially cooked; very similar in flavor to frankfurters; usually sold in small links or as a ring sausage; highly perishable; requires thorough cooking

Composition: moisture 56%; protein 13.3%; fat 27.6%; carbohydrate 0.5%; ash 2.5%

See Part 2: Sausage Identification; Sausage, Types

bockwurst, cooked A moist, cooked, unsmoked American sausage made from finely chopped, mildly seasoned beef, pork, and veal, sometimes made with milk, vegetables, and eggs, stuffed into a sheep or an artificial casing

bockwurst, fresh A moist, uncooked, unsmoked American sausage made from finely chopped, mildly

seasoned beef, pork, and veal, sometimes made with milk, vegetables, and eggs, stuffed into a sheep or an artificial casing

bockwurst (East Germany) A moist, cooked, smoked East German sausage made from medium-chopped, medium-seasoned beef and pork stuffed into a pork or an artificial casing

BOD *See biochemical oxygen demand*

bodara Dried cod or pollock

bodek A Jewish food inspector (meshgiach) specifically trained to check the internal organs of animals for blemishes and scars

BOD load for trickling filter Waste applied in pounds of BOD per day per 1000 cubic feet of filter

bodongo An acidic maize dumpling

BOD, percent reduction Percentage by which the BOD is reduced (waste plant efficiency) due to treatment

BOD, population equivalent 0.17–0.24 BOD per day per person, 100 gal waste per day per person

body 1) Consistency (full), compactness of texture, richness, fullness. 2) Dry table wine—alcohol content. 3) Wine—quality; full alcoholic strength and the correct amount of sugar (sweetness) and acid (flavor). 4) Tea—strength; full flavor without bitterness. 5) Food—firmness or resistance. 6) The principal part of a container (e.g., food can), usually the largest one-piece part that makes up the sides; may be round, cylindrical, or other shape

See Part 2: Bone and Body Weight

body hook The flange (usually on top) of the can body that is turned down during the formation of a double seam

body weight *See Part 2: Body Weight; Fat and Body Weight*

boerenkaas A farm-made type of gouda cheese

boerenkool A smoked, country sausage

bofrot A wheat-flour doughnut

bogobe-jwatung A thick porridge gruel made from sorghum or millet

bog strawberry *See cranberry*

bohea A Java tea

bohemian presky A medium- to coarsely chopped, uncooked, unsmoked American sausage available in large-diameter links or as a ring sausage

bohemian rye bread *See bread, bohemian rye*

bohemian rye flour Rye flour blended with wheat flour to give it more gluten so it can be used in baking bread

bohobe Steamed maize chindanda

boil To cook partially or fully submerged in water or liquid at boiling temperature (100°C; 212°F)
See Part 2: Beans, Dry, Cooking; Vegetable Boiling; Vegetables, Boiling Time, Frozen

boiled ham A cured, unsmoked ham that is boned, cooked (steam or water cooked), compressed, and shaped *See also ham, boiled*

boiled soap A hard soap made from tallow or grease, using a soda base and removing the glycerin formed

boiler plate A term used to describe the terms and conditions on the back side of a purchase order

boiling See Part 2: Altitude Corrections for Boiling Water

boiling point (bp) The temperature at which a liquid vaporizes; normal boiling point is the temperature at which the vapor pressure of a liquid reaches 760 mm Hg.

Boiling point elevation:

0.52°C for 1 g mol. wt. of a nonionized substance (e.g., sugar) per liter of water

1.04°C for 1 g mol. wt. of a completely ionized substance (e.g., NaCl) per liter of water

540 cal is required to change 1 g of water at 100°C into steam at 100°C See **altitude, pressure cooker** See Part 2: Boiling Point, Altitude; Boiling Points, Sodium Chloride, Calcium Chloride; Temperature of Vaporization, Latent Heat of Vaporization, Boiling Point

boiling water bath canner A kettle with lid, rack, and cover; deep enough to allow water to cover jars by 1-2 in.; used for processing *high-acid* (pH below 4.6) foods

boil, rolling A boil that cannot be stirred down

bois de rose oil Obtained by steam-distillation of wood from *Aniba rosaeodora*; used as a floral flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

bojak A sorghum beer

bojalwa A sorghum beer

bok choy (celery cabbage; celery mustard; Chinese cabbage; Chinese mustard; pak choi) A Chinese or oriental cabbage (3-4 lb) or greens with 8-14 in.-thick, white, crisp stalks (10-14 in.) and large, spoon-shaped, dark, fleshy green leaves; can be frozen. It takes 45-60 days to mature. See **Chinese cabbage; Chinese chard**

Varieties	Days to maturity
Crispy choy	45
Lei choy	47

1 bunch bok choy = 4 cups, sliced

See Part 2: Vegetable Composition, Part I

bokinj A Swiss cheese made from cow's milk

bola A round (with flattened poles), semihard, edam-type cheese made from cow's milk

bolar roast A beef roast made from the lower half of a clear-cut shoulder (shoulder clod)

boletes Species of fleshy, central-stalk fungi (mushrooms), several of which are edible

Boletus A genus of mushrooms

bolina A blue cheese made from cow's milk

bolos pelones Fried or poached corn bread containing spiced meat

boll weevil An insect that lays its eggs in cotton buds and bolls; the larvae destroy the fruit; adults are

gray-brown with long snout, about $\frac{1}{4}$ in. long; larvae are white with brown head.

bollworm A moth that lays its eggs on squares, blooms, and bolls of cotton; the larvae destroys the fruit; adults are a gray-brown moth with green areas, wingspread approx. $1\frac{1}{2}$ in.; larvae (young) are white and brown and (old) green to orange with brown stripes.

bologna (Infrequently referred to as breakfast sausage.) 1) A comminuted, mildly flavored, fully cooked (ready to serve), smoked, large-casing sausage; made from beef, pork, and spices; may also be all beef or garlic-flavored; normally contains 60% beef and 40% pork; however, the following percentages are found in formulations:

20-60% bull or beef trimmings

30-60% regular pork trimmings (50-50)

0-10% hearts

0-32% pork cheek meat

0-25% veal

0-35% beef brisket & cheek meat

0-10% cooked beef tripe

0-25% back fat

10-40% ice

2-3% salt

0-8% binders (nonfat dry milk, dry skim milk, soya flour)

* $\frac{1}{2}$ oz sodium nitrite per 100 lb

*0-2 oz sodium nitrate per 100 lb

*7-16 oz sugar per 100 lb

*0- $\frac{7}{8}$ oz sodium ascorbate per 100 lb (added late in chopping)

*4-6 oz white pepper per 100 lb

or 4-6 oz black pepper per 100 lb

*0-2 $\frac{1}{2}$ oz ground cardamon per 100 lb

*2-2 $\frac{1}{2}$ oz coriander per 100 lb

*0-1 $\frac{3}{4}$ oz allspice per 100 lb

*0-1 oz mace per 100 lb

*0-2 oz sage per 100 lb

0-1 $\frac{1}{2}$ lb fresh onions per 100 lb

0-2 oz nutmeg per 100 lb

0- $\frac{3}{4}$ oz fresh garlic per 100 lb

0-2 oz ginger per 100 lb

*combination often used

Processing:

1. Grind through $\frac{3}{8}$ in. plate.

2. Chop beef.

3. Add seasoning and cure (not ascorbate).

4. Add binder and ice as needed.

5. Add pork, ice, and ascorbate.

6. Do not exceed 65°F.

7. Stuff.

8. Smokehouse temperature:

Time (h)	Temp. (°F)	Conditions
$\frac{1}{2}$	130	Dry
1	155	Smoke
$1\frac{1}{2}$	160	Smoke
$1\frac{1}{2}$	185	Cook (until internal temp. reaches 150-155°F)

Shower for 20-30 min; room temperature, 1 h; store in cooler.

96 bologna

Home storage: Keep in original wrapper and refrigerate.

2) A finely chopped, cooked, smoked, fine-cut, batter-type American sausage available in medium- to large-diameter links or large-diameter casings for slicing (more popular)

Composition	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Beef	54.8	11.7	28.4	2	3.2
Beef and pork	54.3	11.7	28.3	2.8	3
Pork	60.6	15.3	19.9	0.7	3.5
Turkey	65	13.7	15.2	1	3.3

1 slice = 22–42.5 g

220–225 mg Na/slice (22 g)

See Part 2: Meat Composition; Sausage Composition; Sausage Identification; Sausage, Nutritive Value; Sausage, Types

bologna bull An aged, lean bull

bologna, ham-style A moist, cooked, smoked American sausage made from fine- to medium-chopped, mildly seasoned (with garlic) beef and pork, with large cubes of ham and stuffed into an artificial casing; available in medium- to large-diameter links or large-diameter casings for slicing (most popular)

bologna, kosher A moist, cooked, smoked finely chopped, mildly seasoned (with garlic) beef and veal stuffed into a beef or an artificial casing; must be produced under rabbinical supervision

bologna, large A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned (with garlic) beef, pork, and veal stuffed into a 4-in., fibrous, artificial casing

bologna, lebanon A dark, semidry, uncooked or fully cooked, smoked American sausage made from coarsely chopped, medium- to highly seasoned beef, with no extenders, that is fermented and stuffed into an artificial casing. Product originated in Pennsylvania and has a tangy, smoked flavor.

Composition: 228 mg Na/slice (18 g)

bologna, Leona A medium- to coarse-chopped, cooked, smoked American sausage available in large-diameter links, rings, or large-diameter casings for slicing

bologna, long A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned (with garlic) beef, pork, and veal stuffed into beef middles or 3½- to 5½-in. artificial cellulose casings

bologna, mortadella 1) A moist, cooked Greek sausage made from finely chopped, heavily seasoned pork stuffed into beef or artificial casings. 2) A moist, cooked, smoked Uruguayan sausage made from finely chopped, mildly seasoned beef and pork, with pork fat in cubes and flour, stuffed into a beef or an artificial casing

bologna, ring A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned (with garlic), beef, pork, and veal stuffed into beef rounds or 1½-in. diam. artificial casings

bolognese A pasta sauce made from vegetables, tomatoes, wine, and herbs

bolognese, alla Food in the rich style of Bologna

bolt 1) A measure of cloth

1 bolt = 36.576 m

2) Development of a seed stalk

bolted Separated by a bolting cloth, as flour from bran

bolting Ingesting or eating too rapidly or greedily

bolus (cud) Food that a ruminant regurgitates for remastication before reswallowing; food formed into a mass for swallowing; a large pill for dosing animals

bomb Two or more frozen mixtures are combined in a melon or mold

Bombay duck (*Harpodon negereus*) A small (3 oz, 10–12 in.), gelatinous fish from the Indian coast that may be consumed fresh or often is split, boned, and dried or is canned in relish

bomb calorimeter An instrument for measuring gross energy or heat of combustion

bombe A frozen dessert made with an outside layer of syrup custard and the center filled with ice cream, parfait, or mousse to which beaten cream has been added. A ball-shaped dessert or confection. A special ring-shaped mold with a lid is used.

bonal A red, aperitif wine

bonardo A dry, red wine

bonavist See **lablab**

bonbel A medium-flavored, semisoft cheese made from cow's milk

bon bons See **candy**

bond The state- (or federally) controlled holding of spirits until duty is paid

bondard A camembert-type cheese made from cow's milk and shaped into short cylinders

bondaroy au foin (pithiviers au foin) A soft cheese with blue rind made from cow's milk and matured 5–7 weeks in hay

bondart A soft cheese made from cow's milk

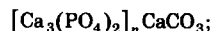
bonde (bondart; bondon) A soft, small, loaf-shaped, neufchâtel-type cheese made from whole milk

bondiola pork butt A semidry, uncooked, smoked, heavily seasoned Uruguayan whole pork butt that is not stuffed into a casing

bondon A cheese made from ewe's milk or from a mixture of cow's and ewe's milk. Sometimes it is a blue cheese.

bondon de Neufchâtel A camembert-type cheese made from cow's milk

bone 1) The fundamental structural system of the body. Composed of connective tissue and



skeleton; retail meat-store bones will yield 60% meat scraps; 30% moisture; 10% tallow.

Bone in 1000-lb beef carcass:

Chuck bones 12 lb
Shoulder blade bone 3.2 lb
Forequarter shank bones 13.2 lb
Hindquarter bones 16.5 lb
Rump and sirloin bones 20.5 lb
Plate and rib bones 25.2 lb
Total 90.6 lb

2) To remove bones from; removal of bones

See Part 2: Beef Chuck; Beef Round, Bone Structure; Beef Wholesale Cuts; Beef Yields; Bone; Bone Age; Bone and Body Weight; Bone and Retail Cuts; Bones, Composition; Gland Weights; Moisture in Biological Materials; Organ Weights; Poultry Yield

bone charcoal (bone black) Composition: dry matter 90%; protein 8.5%; calcium 27%; phosphorus 13%

boned fish A fish from which the principal bones have been removed

bone dust Fine particles of bone normally produced by sawing

bone fertilizer Forms:

Boiled or steamed bone
Bone ash
Bone black or animal charcoal
Bone dust
Bone meal
Raw bone

bone flour, steamed A phosphorus fertilizer

bone grease Fat obtained from rendered bones; oil obtained by dry distillation; tallow obtained by boiling

See Part 2: Iodine and Saponification Values

boneless Contains no bone

boneless fish Contains no bones

boneless sirloin Boned muscle of the loin end whole-sale cut

bone meal A meal made from pulverized animal bones, either steamed under pressure or unsteamed and ground. The former is used for animal feeds and the latter, called raw, for an all-around fertilizer (slow in action). Feed grade must have 65–75% tricalcium phosphate and 2% max. ammonia. Fertilizer grade has 40–55% tricalcium phosphate, 20–25% phosphoric acid, and 4–5% ammonia. A general organic fertilizer.

Composition (steamed): dry matter 96–97%; protein 11–13%; fiber 2%; fat 3%; ash 70%; calcium 28–30%; phosphorus 12.5–13.3%; sodium 5.5%; sulfur 2.4%; iron 2.6%

See Part 2: Fertilizer Materials; Packinghouse By-Products Composition

bone meal powder Diet supplement used mainly as a source of calcium

bone oil 1) Oil obtained by heating bones. 2) The liquid portion of bone fat; used as a lubricant and on leather

bone phosphate Derived from animal bones

Treatment	Removed	Remaining
Hydrochloric acid	Calcium phosphate	Soft animal matter
Burned	Organic matter	Calcium phosphate

boneset A bitter herb

bongkrek Coconut press cake containing mold mycelium and fried in oil

bon goût Good taste; highly seasoned

boning Removing bones from meat

boning yield The percentage of boneless meat in a carcass

bonito (bonita) Common name for several saltwater food fishes, resembling a mackerel (related to mackerel) and tunny fish, but the flesh (reddish) is more tunalike (tuna or mackerel family) and is used for the same purpose.

Atlantic, *Sarda sarda*
Australia, *S. australis*
California, *S. lineolata*
Ocean, skipjack
Pacific, *S. chilensis*
Plain, *Orcynopsis unicolor*
Striped (Oriental), *S. orientalis*

It is available fresh or dried and flaked.

See Part 2: Vitamin A, Fish; Vitamin D, Fish

bonne damme See *orache*

bonnekamp Bitter cordial

boodoo (abodoo) An acidic maize dumpling

borage (Borago officinalis) A coarse, annual (80 days), 2-ft, aromatic herb with a cucumber-like fragrance; the leaves, flowers, and flower spikes are used to add flavor to food. Leaves may be used as a salad or to flavor lemonade and cooling drinks. Flowers are also sugared and used as a confection. See *cool tankard*

Parts of plant:

Flowers are candied
Leaves and flower tops used in beverages
Nectar used by bees
Oil used to flavor drinks (adds coolness)
Tender growth boiled and used as a vegetable (greens)
Young leaves used in salads

borassus palm See *palmyra*

borax Hydrated sodium salt of boric acid, $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ (sodium tetraborate). There is also an anhydrous grade used as an herbicide.

See Part 2: Fertilizer Materials

Bordeaux A region in southwestern France in which red (claret) and white wines of the same name are produced

Types:

Red (claret)
White
Graves (dry)
Sauterne (sweet)

See *Blaye*; *Bordeaux, white*; *Bourg*; *Cabernet*; *Cérons*; *claret*; *Entre Deux Mers*; *Loupiac*; *Médoc*; *Pomerol*; *Premières Côtes de Bordeaux*; *Saint Croix de Mont*; *Sauternes*; *St. Emilion*

Bordeaux mixture A mixture of slaked lime and copper sulfate solution; used as an insecticide, especially for potato bugs

Bordeaux supérieur A dry, well-balanced, red, French wine

98 Bordeaux, white

Bordeaux, white White wine produced in the Bordeaux (southwest France) area in the districts of Barsac, Cérons, Entre Deux Mers, Graves, Loupiac, Premières Côtes de Bordeaux, Sainte Croix du Mont, and Sauternes

bordelaise A rich sauce made of red (sometimes white) wine, shallots, thyme, and pepper and used for red meat

Border, Leicester A large, fertile breed of English sheep used primarily in crossing

Bordetella A genus of microorganisms that are gram-negative coccobacilli; they cause respiratory-tract infections.

See Part 2: Microorganism, Media

bordet gengou agar See **agar-agar**

See Part 2: Microorganism, Media

borecole Once a particular variety of kale, now refers to kale in general See **kale**

borek A fried or baked pie made of thin pastry with filling (meat or cheese) in layers

borer An insect

Control: insecticide (endosulfan)

See **Pacific flatheaded borer**; **American plum borer**; **shothole borer**

boric acid (H_3BO_3) A weak antiseptic; a 2% solution is used for eye wash

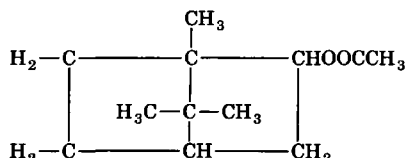
boric acid broth See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods

Borlaug, Norman A Nobel prize winner, for his part in the green revolution See **green revolution**

borneo (green butter; tangkawang) A fat used in the chocolate industry as a substitute for cocoa butter; obtained from the fruit of *Dipterocarpus* or *Shorea stenoptera*

See Part 2: Iodine and Saponification Values; Melting Points, Fats and Oils; Refractive Indices, Fats and Oils; Titer, Fats and Oils

bornyl acetate



Obtained from pine needle oils or synthetically; used as a pine flavoring agent in food

Storage: full, tight, glass container in cool, dark place

borodinsky A rye and wheat bread glazed with coriander seed

boron (B) A nonmetallic element; at. no. 5; at. wt. 10.82; Group IIIA of the Periodic Table; oxidation state +3; electron configuration 2-3

orbit K L

A trace element in plant nutrition; deficiency causes death of stem and root tips and irregular growth, with terminal end curling and disintegration of plant tissue.

See Part 2: Grain Analysis; Nutrients in Crops; pH and Availability of Plant Nutrients

borovicka A type of gin

borax Sodium tetraborate ($\text{Na}_2\text{B}_4\text{O}_7$); when added to firewood, produces a green flame

borsch (borscht; borsht) A fermented or fresh vegetable stock soup colored with red beet juice and of Russian origin; sometimes contains meat such as beef, duck, or sausages

Types:

Hot or cold

Served with sour cream garnish

Thick or thin

Bos A zoological genus that includes all cattle (and buffalo)

bossam-kimchi An acidic, carbonated Chinese cabbage

bossons A cow's-milk cheese

bossons macères A strong-flavored, valençay-type cheese made from goat's milk and matured in white wine or brandy, olive oil, and herbs

boston baked beans Baked beans (navy, kidney, or haricot), cooked slowly (6-8 h in an oven) and flavored with molasses. See also **haricot bean**

Boston bluefish See **pollock**

boston brown bread A moist, steamed, brown bread made from the following ingredients:

Corn meal

Baking soda

Molasses

Rye meal or flour

Sour milk or buttermilk

Wheat flour (often whole wheat)

See **bread**, **boston brown**

boston butt Upper portion of a pork shoulder

See Part 2: Meat, Servings per Pound; Pork Carcass, Retail Yield; Pork Chart; Pork, Cooking; Pork, Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Shoulder; Pork Wholesale Cuts; Pork Yield

boston cream pie Composition:

$2\frac{1}{8}$ -in. sector of 8-in. round pie = 210 calories

Boston cut (English cut) A rectangular cut of meat from the thin end of the fourth and fifth ribs of the beef chuck

See Part 2: Beef Cuts; Beef Retail Yield

Boston lettuce (big Boston, butterhead) A type of lettuce having velvety spreading leaves that separate easily See **lettuce**

boston mackerel Salted mackerel

botanical Refers to any plant, root, bark, herb, or spice used for its effect on the body in addition to its taste

botargo (red caviar) Dried, salted roe (eggs) of gray mullet

boterhamworst 1) A moist, cooked, smoked Dutch sausage made from fine- or coarse-chopped, medium-seasoned pork, beef, and/or veal with coarsely chopped fat and stuffed into a beef or an artificial casing. 2) A moist, cooked, unsmoked Belgian sausage made from finely chopped, medium-seasoned beef and pork stuffed into beef or artificial casings

bot rot See *botryosphaeria* canker

botryodiplodia fruit rot A wound parasite fungus (*Botryodiplodia theobromae* formally called *Diplodia musae*) that causes the following forms of rot in bananas:

Crown rot—similar to main stem rot except a larger area

Finger-stalk rot—water-soaking and blackening of finger stalks

Main-stalk rot—cut end of main stem takes on a water-soaked appearance, followed by blackening, softening, and splitting of stem

Tip rot—brown discoloration and softening of the pulp; Peel becomes black and wrinkled

Control: cooling fruit to 53–56°F and prompt ripening and marketing

botryosphaeria canker A fungus that affects woody tissue (blisters filled with liquid and later a sunken, dark-colored lesion) and fruit (small, reddish brown spots that enlarge to form egg-shaped rotted spots) on apple and pear trees

Control: Prune and destroy affected parts; maintain trees in good vigor and use fungicide spray.

Botrytis A genus of fungi causing rotting in plants and diseases in insects

See Part 2: Mold, Food; Rot Spoilage

Botrytis cinerea See *pourriture noble*

botrytis rot (gray-mold rot) A citrus fruit rot caused by *Botrytis cinerea* in which the fruit surface becomes drab or cinnamon brown and later may turn buff or dark brown

bottarga Salted, pressed, and dried roe from mullet, tuna, and other fish

bottle Types in use are as follows:

$\frac{1}{4}$ bottle

$\frac{1}{2}$ bottle

Imperial pint = $\frac{3}{4}$ -qt wine bottle, or bottle

Reputed quart wine bottle (26 $\frac{2}{3}$ fl. oz) or $\frac{1}{8}$ gal

Imperial quart (40 fl. oz) or $\frac{1}{4}$ gal

Tappit-hen = 3 Imperial quarts

Magnum = 2 bottles

Jeroboam, or double magnum = 4 bottles = 3.2 l = 0.7 gal

Rehoboam = 6 bottles = 4.8 l = 1.05 gal

Imperiale (claret) = 8 bottles = 6.4 l = 1.4 gal

Methuselah = 8 bottles = 6.4 l = 1.4 gal

Salmanazar = 12 bottles = 9.6 l = 2.1 gal

Balthazar = 16 bottles = 12.8 l = 2.8 gal

Nebuchadnezzar = 20 bottles = 16 l = 3.5 gal

bottled in bond A straight whiskey, produced and bottled in accordance with the Bottling-In-Bond Act, a federal law dating back to 1897; e.g., bonded bourbon must conform to all the requirements and standards of any straight whiskey and in addition the whiskey must be at least four years old (most are older), must be bottled at 100 proof (suggestions have been made to reduce this level), produced in a single distillery by the same distiller, and be the product of a single season and year.

bottle gourd (calabash) The hard, green-shelled fruit of the calabash tree. It has a white, acid pulp,

which is roasted and made into syrup; the shell is dried for containers. See *gourd*

bottom The lower portion of a container made in the "bottom plate" of a glass container mold See *factory end*

bottom chuck Inside portion of a beef chuck when this area is divided along the blade bone

bottom plate parting line The horizontal line on a glass container surface, resulting from the matching of body and end mold parts

bottom round The outside muscle of the round; it is tougher than top round. See also *outside round*

See Part 2: Beef, Boneless Cuts; Beef Round Cuts; Meat Identification

bottoms The lees, dregs, or sediment in a bottle of wine

bottom seam (factory end seam) The double seam between body and bottom of a can put on by the can manufacturer

botulinum See *Clostridium botulinum*

botulism A type of food poisoning caused by consuming toxin produced by the anaerobic bacteria *Clostridium botulinum*; most potent poison known to humans; neurotoxin formed during growth of *C. botulinum* (spore-forming bacteria that require no oxygen). Six antigenic types of toxin (different species): humans (A, B, E, F); animals (C, D). Spores of these bacteria are often found in soil and are likely to be present in soil-contaminated food. See also *Clostridium botulinum*

See Part 2: Bacterial Food-borne Illnesses; Diseases, Food-Borne; Food Poisoning, Bacteria; Illness from Food; Infectious Diseases, Food-Borne; Microbial Toxins

bouché Corked

bouchée Small, puff pastry shell or patties filled with meat or fish

boudanne A French cheese made from whole or skimmed milk

boudin A light sausage or pudding usually made with chicken and veal or from chicken or pork

boudin aux fruits A moist, cooked, unsmoked French blood sausage made from medium-chopped, medium-seasoned pork with fruits or vegetables and stuffed into pork or sheep casings

boudin blanc A moist, cooked, unsmoked Belgian sausage made from finely chopped, medium-seasoned pork, stuffed into pork casings

boudin de Bourgogne A moist, cooked, unsmoked French blood sausage made from medium-chopped, medium-seasoned (with fat, onions, milk, and rice) pork stuffed into pork casings

boudin de langue A moist, cooked, smoked French blood sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into a beef casing. The product is like saucisson noir with pork or beef tongues.

boudin de Strasbourg A moist, cooked, smoked French blood sausage made from medium-chopped, medium-seasoned (with fat and cooked onions) pork

100 boudin de Strasbourg

with 15% rinds and 15% milk-soaked bread and stuffed into pork casings

boudin du Poitou A moist, cooked, unsmoked French blood sausage made from medium-chopped, medium-seasoned pork with spinach, cream, milk, and bread (no fatty tissues added) and stuffed into pork casings

bouerou A sorghum beer

bougon A valençay-type cheese made from goat's milk

bouillabaisse A chowder made from at least two kinds of fish (several types of fish are used); a stew made from fish, shellfish, onions, tomatoes, and spices

bouilli Boiled or stewed food (French)

bouillir To boil (French)

bouillon (broth; stock) A clarified liquid (soup) prepared by simmering beef or fish; usually dark in color. It is seasoned with vegetables and condiments (herbs and spices) during cooking. Tomato bouillon has a tomato-juice base and can be combined with meat stock.

See Part 2: Soups, Composition

Ingredients: salt 50–70%; beef extract 8–30%; plant or vegetable extract 3–30%

bouillon cube (or powder) A dehydrated cube containing salt, hydrolyzed vegetable protein and fat, dextrin, sugar, meat extract, and coloring

1 cube = 4 g = $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ in.

Used for flavor and as an appetite stimulant

Storage: room temperature (below 70°F); shelf life 1 yr

Composition: moisture 4%; protein 20%; fat 3%; carbohydrate 5%; ash 68%

Bouin's picro-formol Picric acid, saturated:

Aqueous solution (1 g/75 ml H₂O), 75 parts

Formalin, 25 parts

Glacial acetic acid, 5 parts

Not for use with kidney or cells containing mucin

1. Fix for 4–16 h

2. Wash with several changes of 50% alcohol

3. Wash with several changes of 70% alcohol

4. Store in 70 or 80% alcohol

boukha Fig brandy

boula boula A soup made of turtle, sherry wine, and whipped cream

boule des moines A semisoft cheese made from cow's milk and shaped into 80-mm balls; herb-flavored. Also, a strong flavor is often imparted by maturing in beer washing

boulette A semisoft cheese made from cow's milk; usually with a red rind. A strong flavor is often imparted by maturing in beer washing. Pepper and herbs are often used as flavoring.

boulogna A dry, uncooked, unsmoked Belgian salami made from medium-chopped, medium-seasoned horsemeat. It is fermented and stuffed into pork casings.

bound water Water that has been adsorbed by the colloids (proteins) of a living cell

bouquet The smell or scent that characterizes an alcoholic beverage, especially a fine wine

bouquet garni A group of herbs used in seasoning stews, soups, and casseroles that is removed after

cooking; usually contains bay leaves, onion, parsley, and thyme. May also contain dried orange peel, lemon thyme, mace, marjoram, and winter savory

bouquetière, à la With several vegetables

bourbon whiskey An alcoholic beverage made from a mash that contains at least 51% corn (with added rye and barley) in its grain content (usually 65–75% corn); aged in charred new oak containers for at least 2 yr

bourdon tube A closed, flexible, coiled, metal tube that expands or contracts with temperature and controls the position of a marking pen on a temperature recorder

Bourg Red and some white wines produced on the north bank of the Gironde River in the Bordeaux region (southwest France), e.g., Côte de Bourg; bourgeais

Bourgogne A dry, white or light red wine

bourgueil A French, red, table wine

bourguignonne Meat cooked in red wine sauce with onions and mushrooms

bourride A fish dish

boursault A small (250 g), triple-cream, excelsior-type cheese that is sometimes herb-flavored and has a light pink rind

boursin A soft-ripened, white, triple-cream, excelsior-type French cheese made from whole cow's milk and sometimes flavored with garlic, herbs, or pepper

boursoult A soft French cheese

boutifar A semidry, cooked, unsmoked French blood sausage made from medium-chopped, medium-seasoned pork stuffed into beef or pork casings

bouza A sorghum or millet beer

bovine Pertaining to oxen or cattle (*Bos bovis* and related species); Latin *bos*
See Part 2: Molds, Mycotoxins

bovine TB medium See Part 2: Microorganism, Media

bowfin (*Amia calva*) A mudfish that can be used for food

bowl chopper See **chopper**

bow tie A bow-tie-shaped pasta, $1\frac{5}{8} \times 1\frac{1}{8}$ in.

box A medium-flavored, semisoft cheese made from partially skimmed cow's milk

box curing (pressure) Curing bacon in a box and applying pressure to it during cure. Use $\frac{3}{4}$ oz cure/lb bacon; duration of cure is not too important, because bacon will not overcure

box elder A tree that is fair for firewood [19×10^6 Btu/cord (20% moisture)], medium-difficult to start, and difficult to split and produces medium smoke, fair coals, and few sparks

box elder bug (*Leptocoris trivittatus*) A black and red sucking bug that attacks ripening fruit

boysenberry A seedless, red to purple, oblong, juice berry of a trailing blackberry developed by crossing

raspberry, blackberry, and loganberry; very similar to loganberry

Variety	Color	Size	Season	Major growth area
Thornless	Black-maroon	2 in.	June	Southern Pacific Coast

Frozen styles available: whole, with or without sugar or syrup

1 24-qt crate = 12–18 qt, canned

= 32–36 pt, frozen

1 pt, fresh = 13 oz, frozen

1 pt, frozen = 1.3–1.5 pt, fresh

See Part 2: Fruit, Frozen Yield

boysenberry, canned In addition to boysenberries, may also contain natural and artificial flavors

Syrups:

Extra light (< 14% sucrose)

Light (14–19% sucrose)

Heavy (19–24% sucrose)

Extra heavy (24–35% sucrose)

BP Broken pekoe; a cut-leaf rather than full-leaf tea

Br Symbol for the element bromine

bra A hard (sometimes soft), white, creamy, mild (sometimes salty and sharp), compact, Italian cheese made with partly skimmed cow's milk

Brabham A variety of cowpeas

brachetto A red, still or sparkling, Italian wine

brachiocephalicus A muscle that runs from the shoulder to the head along the ventral side of the neck

braciola Meat rolled around a stuffing and cooked in wine sauce

brack A heavily fruited tea bread

brack bread Bread usually made from rye and often with molasses

bracken (brake) fern (fiddlehead; *Pteridium* spp.)

1) Unopened leaves and roots are edible. 2) A poisonous plant See **fern shoots**

See Part 2: Poisonous Plants

brackish A salty, alkaline taste

brackkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned (potato starch and skimmed milk powder) beef and pork stuffed into a peelable artificial casing

bract A modified leaf below a flower or flowering part

bracteole A small or secondary modified leaf below a flower or flowering part

bradenham ham A dry-cured, black-skinned pork ham smoked in molasses

brado Herring that is lightly salted and smoked

Bradford system See **English system**

Braford A cross of Brahman ($\frac{3}{8}$) and Hereford ($\frac{5}{8}$) beef cattle

braga A millet beer with honey or grapes

braganza (Portugal cabbage) A white-ribbed cabbage with smooth or curly leaves, used like sea kale See **couve tronchuda**

Brahma An Asiatic class of chickens that have feathered shanks, pea comb, and yellow skin and lay a brown-shelled egg

Varieties	Plumage color
Light*	Generally white; neck feathers black with white edging; tail feathers dark
Dark*	(Female) neck and back are greenish black with edging of white; front of neck black; rest of body is mostly black (Male) head and upper neck are gray; rest of body gray with black penciling; tail is black
Buff*	Similar to Light except the white areas are replaced by buff

*Bantam varieties

See Part 2: Poultry Breeds and Varieties

Brahman (Indian cattle; Zebu) A breed of beef cattle derived from several breeds of native Indian zebu (*Bos indicus*) cattle; they have a prominent hump above the shoulders and excess skin below the neck and brisket and have flat horns and drooping ears; their color ranges from gray to red. Guzerat strain most popular in the United States; can withstand extreme heat and repel both flies and ticks See Part 2: Beef and Dual-Purpose Cattle

Brahorn A cross of Brahman and Shorthorn beef cattle

braided cheese String cheese made from cow's milk, often flavored with caraway or nigella seed

brain Nerve tissue in the skull of animals; some types are used as food, e.g., calves.

0.9 lb/1000-lb steer

To prepare, soak in cold water and remove blood vessels and connective tissue; often braised or breaded and then sauteed

Composition: moisture 79%; protein 10%; fat 9%; carbohydrate 1%; ash 1.4%; 35 mg Na/oz (28 g)

Store in coldest part of refrigerator; use within 1–2 days.

See Part 2: Beef Cuts and Uses; Cholesterol Control; Gland Weights; Lamb Cuts and Uses; Moisture in Biological Materials; Organ Weights; Pork Cuts and Uses; Unsaturated Fatty Acids; Variety Meat, Cooking; Variety Meat, Percentage of Daily Recommended Allowances; Variety Meat Preparation; Veal Cuts and Uses

brain heart infusion agar See Part 2: Microorganism, Media

brain veal agar See Part 2: Microorganism, Media

braise To cook slowly in a covered utensil with a small amount of liquid (e.g., water, tomato juice, bouillon); a moist-heat method of cooking (for less tender cuts of meat); moisture is added and the product placed in a closed container and cooked either in an oven (350°F) or on top of a stove, frequently preceded by browning in fat.

See Part 2: Beef, Cooking; Beef Cuts; Braising Meat; Braising Time; Lamb Braising; Lamb Cuts; Lamb Cuts and Uses; Meat Composition; Pork, Cooking; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Variety Meat, Cooking; Variety Meat Preparation; Veal Chart; Veal Cuts; Veal Cuts and Uses; Vitamin Retention, Meat

bramble (*Rubus*) Many varieties of what are often called berries, e.g., blackberry

bran 1) The ground, outer protective layer (pericarp) and the layer just under it (aleurone layer) in cereal grains; pericarp or seed coat; high in roughage and B-complex vitamins. The pericarp is 5% of the kernel and the aleurone is 8% of the kernel. Bran is largely cellulose and contains minerals and vitamins. As milled, it may contain some germ. Yield is 20 lb/bu. 2) A breakfast food made from the bran and embryo fraction of wheat. 3) Dried parts of shrimp used for animal food

See Part 2: Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat, Fatty Acids; Wheat Kernel Parts; Wheat Products, Composition

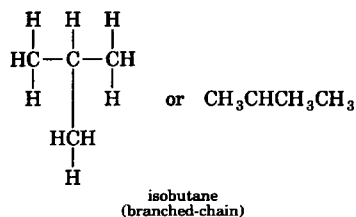
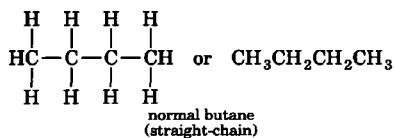
bran, breakfast cereal

1 cup All Bran = 2 oz

1 cup 40% Bran Flakes = 1.2 oz

bran cereals, ready-to-eat Composition: 160–304 mg Na/oz (28 g)

branched chain A linear series or chain of carbon atoms occurring in hydrocarbons and alcohols in which one or more substituent groups is present. Compounds containing branched chains are notably more reactive than normal or straight-chain compounds, especially in catalytic cracking processes; for example, normal heptane has an octane number of 0, whereas isooctane rates 100. The more extended the branching, the more reactive the compound in organic synthesis. Branched-chain compounds are isomeric with the corresponding straight-chain compounds and are indicated by the prefix *iso-*. An example is butane:



branco cure Salted (29%) cod that have been bleached by water

brand 1) A mark burned or frozen on an animal's skin; a trademark. 2) A mark or stamp approved by a controlling authority. 3) A sour-milk, curd cheese flavored with beer

brandade A creamy, paste mixture of salted cod, milk, and olive oil flavored with pepper, nutmeg, garlic, and lemon juice

brand cheese A sour-milk, German cheese that is moistened with beer

brandy A spirit with a high alcohol content, distilled from fermented grape juice, wine or wine residues, or other fruit. The distillate or mixture of distillates from fermented juice, mash, or wine of fruit distilled at less than 190 proof; usual range 37–43% alcohol by volume.

Types:

Armagnac (France)

Cognac (France)

See Part 2: Minerals (Trace), Limits

brandy flavoring A synthetic flavoring

1 tbsp brandy flavoring = $\frac{1}{3}$ cup brandy

brandy mint (*balm mint*; *Mentha peperita*) Distillation of its purple flowers yields oil of peppermint

brandy sauce A butter- and brandy-flavored sauce

brandy snaps Dark-colored, cornet- or cylinder-shaped, crisp wafers that are cream-filled and often brandy-flavored

bran flakes A breakfast cereal made from 40% bran and embryo of wheat; a ready-to-eat breakfast cereal formed from precooked or toasted mixtures of wheat bran (outer coarse coat of grain), barley malt, sugar, and salt

Types:

All Bran—made entirely from wheat bran

Bran Flakes—made with other parts of wheat (40–51% bran)

Composition (40% bran): 85 calories/oz ($\frac{1}{3}$ cup); moisture 3%; protein 10%; fat 2%; carbohydrate 77%; sugar 13%

See Part 2: Grain Products, Composition

bran flakes with raisins A breakfast cereal

Composition: moisture 7%; protein 8%; fat 1.5%; carbohydrate 76%; 80 calories/oz ($\frac{3}{5}$ cup)

Brangus A cross of Brahman ($\frac{3}{8}$) and Angus ($\frac{5}{8}$) beef cattle. They are black and polled. Produced by the following combinations:

1. ($\frac{1}{4}$ Brahman and $\frac{3}{4}$ Angus) \times ($\frac{1}{2}$ Brahman and $\frac{1}{2}$ Angus)

2. ($\frac{3}{4}$ Brahman and $\frac{1}{4}$ Angus) \times Angus

3. Brangus \times Brangus

See **Red Brangus**

See Part 2: Beef and Dual-Purpose Cattle

bran muffin Composition: moisture 35%; protein 8%; fat 10%; carbohydrate 41%

branntwein Brandy

brannvin A schnapps-type spirit

brasciole Meat wrapped around a stuffing of ground meat and sometimes bread crumbs, cheese, and spices, browned in oil, and cooked in broth

brass An alloy of copper, tin, and zinc; somewhat soluble in food and dissolves in both acid and alkalis

Brassica A large genus of plants that includes the following:

1. Black mustard
2. Brussels sprouts

3. Cabbage
4. Cauliflower
5. Kale
6. Pe-tsai
7. Rape
8. Rutabaga
9. Turnips

bratbuckling Lightly cured, smoked herring

bratkäse A semihard, cow's-milk cheese with a full fruity flavor

bratwurst A German "frying sausage" product made from lean pork (sometimes veal) trimmings

Ingredients:

Pork trimmings (70% lean)

2% salt

6 oz white pepper per 100 lb

$\frac{1}{2}$ oz celery seed per 100 lb

$\frac{1}{2}$ oz mace per 100 lb

1 oz sage per 100 lb

Grind $\frac{1}{8}$ -in. plate; mix; stuff; cook in water to internal temp. of 148°F. Usually sold uncooked; called white sausage if cooked; sometimes sold fresh. 1) A fresh, uncured (if cured, must be labeled), uncooked (sometimes cooked), unsmoked (occasionally smoked) sausage. 2) A moist, uncooked, uncured, unsmoked American sausage made from medium- to coarse-chopped, mildly seasoned (with coriander, ginger, mustard, and pepper) beef, pork, and veal with added water, extenders, and antioxidants, stuffed into a large-diameter link or ring, pork, or artificial casing. 3) A German sausage made from lean pork trimmings (may contain veal and/or pork); it may be fresh or cooked. 4) Sheboygan bratwurst are fresh and require thorough cooking. 5) Nürnberger bratwurst are fully cooked and require only heating. 6) A moist, uncooked, unsmoked Australian sausage made from finely chopped, mildly seasoned beef and lamb stuffed into a beef or pork casing. 7) A moist, cooked, unsmoked Irish sausage made from finely chopped, mildly seasoned pork stuffed into a pork casing. 8) A moist, cooked, unsmoked Norwegian sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into a pork casing. 9) A moist, cooked, unsmoked West German sausage finely chopped, mildly seasoned pork without nitrite and stuffed into a pork casing; product is cooked before consumption.

Composition: moisture 56%; protein 14%; fat 26%; carbohydrate 2%; ash 2%; 158 mg Na/oz (28 g)

See Part 2: Sausage Identification; Sausage, Types

bratwurst, cooked A moist, cooked, smoked or unsmoked, uncured American sausage made from fine- to medium-chopped, mildly seasoned (with pepper, coriander, ginger, and mustard) beef, pork, and veal (sometimes made with poultry meat) stuffed into a pork or an artificial casing; available in medium to large links or large-diameter casings for slicing

braudost An edam-type cheese

braun A coarse- to chunk-chopped, unsmoked, cooked, jellied American specialty sausage; available in links, in loaves, or canned

braunschweiger A sausage normally made of 50% pork liver and 50% pork jowl; however, the following

percentages are found in formulations:

40–50% pork liver

20–50% pork jowl

0–12% bacon ends or cured meat

0–15% veal

20–40% pork trimmings

0–20% beef trimmings

0–7½% ice

0–5% binder

*1.6–2.5% salt

*6–16 oz sugar/100 lb

* $\frac{1}{8}$ –2 oz NaNO₃/100 lb

* $\frac{1}{8}$ – $\frac{1}{4}$ oz NaNO₂/100 lb

*2–6 oz pepper/100 lb

0–5 lb onion/100 lb

0–4 oz onion powder/100 lb

*0–1 oz sweet marjoram/100 lb

*0–1 oz cardamon/100 lb

*0–1 oz mace/100 lb

0–1 oz caraway seed/100 lb

0–3 oz mustard/100 lb

0– $\frac{1}{2}$ oz clove/100 lb

0–2 oz coriander/100 lb

0– $\frac{1}{2}$ oz sage/100 lb

*This combination is used in some formulations.

Processing:

1. Slash liver and place in ice water to bleach; drain.

2. Chop liver, ice, and seasoning.

3. Add meat and chop.

4. Stuff.

5. Cook in 160°F water until internal temp. reaches 145°F.

6. Chill in ice water (internal temp. 90–100°F).

1) A moist, cooked, smoked or unsmoked, jellied and/or specialty American sausage made from fine- to coarse-chopped, mildly seasoned beef, pork, and veal with pork livers and/or beef livers (minimum 30% liver), cured pork, beef, veal, and pork fat and stuffed into a pork or an artificial casing and available in rings or loaves. 2) Liver sausage that has been smoked after cooking or includes smoked meats as ingredients. Fully cooked, ready to eat. 3) A moist, cooked, smoked Austrian sausage made from medium-chopped, medium-seasoned cured (with nitrite) beef and pork stuffed into beef or artificial casings; diam. greater than 30 mm

Composition: moisture 48%; protein 13–14%; fat 32%; carbohydrate 3%; ash 3%; 324 mg Na/slice (28 g)

See Part 2: Meat Composition; Sausage Identification; Sausage, Nutritive Value

braunschweiger, mettwurst, fein A moist, uncooked, smoked East German sausage made from finely chopped, medium-seasoned beef and pork stuffed into an artificial casing or not stuffed into a casing

braunschweiger, mettwurst, grob A moist, uncooked, smoked East German sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into an artificial casing or not stuffed into a casing

Braunvieh German brown cattle

brawn 1) A moist, cooked, unsmoked British sausage made from medium- or coarse-chopped, mild- or medium-seasoned beef, lamb, pork, veal, and goat not

104 brawn

stuffed into a casing; boned, jellied, potted meat; a pork-based, highly seasoned, jellied molded sausage; a head-cheese type of sausage made from pork heads, legs, and feet and sometimes the tongue. 2) Boiled, pickled, and pressed boar flesh. 3) Seasoned, spiced, and pressed pork or veal trimmings. 4) Young entire male hog

browner male hog castrated after maturity

brawn, Irish A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned pork stuffed into an artificial casing or not stuffed into a casing

brazier A shallow-bowled grill that may or may not have a windshield

Brazilian cherry See **surinam cherry**

Brazilian parana Full-bodied, strong-flavored coffee

Brazilian santos A Brazilian coffee; it is sharp, refreshing, strong, and light-colored in the cup.

Brazilian tea See **Maté**

Brazil nut (butternut; castanas; creamnut, paranut; Bertholletia excelsa) A hard-shelled, triangle-shaped (1.5 in. long) nut used for food and oil; a wild, large (130 ft) South American tree that produces woody fruit (2–4 lb, 5 in.) containing 12–25 three-sided nuts packed together in a spherical covering; they are washed by immersion in a stream to remove dirt and empty nuts; the nuts have to be cracked to obtain the kernel, which is eaten raw.

Composition (kernel): moisture 5%; protein 14%; fat 67%; carbohydrate 11%; ash 3%

1 lb shelled kernels = 2 lb, unshelled

1 lb unshelled nuts = 7.7 oz shelled nuts
= 1.5 cups shelled nuts

1 cup, whole, unshelled = 14 nuts
= 4.3 oz

1 cup, shelled = 5 oz

4–5 large nuts = 2 tbsp
= 115 calories

1 nut, shelled = 4.2 g

Unshelled	Shelled	Price
Extra large (jumbo)	Large	Higher
Large	Medium	
Large medium	Midget	
Medium		Lower

See Part 2: Beans, Peas, and Nuts; Minerals, Food; Nut, Grades; Plant Foods, Composition; Protein Factors

bread 1) A leavened mixture made from flour or meal and baked in an oven. A baked staple food in which gluten protein of wheat, rye, or mixed flours is expanded by fermentation and heat-fixed to produce an aerated product with a crust that is $\frac{1}{8}$ in. thick. Often leavened (sometimes unleavened) by various means:

1. Natural fermentation by yeast [*Saccharomyces cerevisiae*] produces CO₂ in the bread
2. Adding old dough in which fermentation has occurred
3. Baking powder

4. Aeration

Ingredients	White (%)	Whole wheat (%)
Flour	100	100
Water	60–65	66
Yeast	2–3	2
Salt	2	2.25
Sugar	4–8	4
Mold inhibitor	0.125	
NFDM* solids	3–4	
Shortening	2–4	5
Emulsifier	0.25	0.2–0.4

*Nonfat dry milk

2½ pullman loaves bread = 50 servings

Weight per slice:

Cracked wheat 0.8–0.9 oz

French (20 slices/lb) 0.8 oz

Italian (20 slices/lb) 0.8 oz

Pumpernickel 0.8–1.4 oz

Raisin 0.8–0.9 oz

Rye 0.6–1.2 oz (25 g; 8% fiber)

Vienna (20 slices/lb) 0.8 oz

White 0.8 oz

White (very thin) 0.5 oz

Whole wheat 0.8–1.1 oz (25 g; 10% fiber)

Equivalents: $\frac{1}{2}$ potato; $\frac{3}{4}$ slice of bread; $\frac{1}{3}$ cup of rice, $\frac{1}{3}$ cup macaroni, or 20% of $\frac{1}{2}$ cup vegetable; $\frac{1}{2}$ matzoh;

1¼ tbsp flour; 2½ biscuit; 5 small graham crackers

1 lb loaf = $\frac{3}{4}$ lb flour (3 cups flour)

= 1 cup water

1 lb = 12–18 slices

1 cup, $\frac{1}{4}$ -in. cubes = 2.7 slices

1 cup soft bread crumbs = 1.4 slices

1 slice = 0.7 cup soft crumbs

Composition	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)	pH
Pumpernickel	34	9	1	52		
Rye	36	9	1	52	2	
White	36	9	3	51	2	5.0–6.0
Whole wheat	36	10	3	48	2	

Bread contains the following:

62% total solids

114–175 mg Na/slice (25 g)

1.1–1.8 mg thiamin/lb

0.7–1.6 mg riboflavin/lb

10–15 mg niacin or niacinamide/lb

8–12.5 mg Fe/lb

(optional) 150–750 U.S. Pharmacopeia units of vitamin D/lb

Storage (fresh): Keep in original wrapper in a bread box, at room temperature; use in 5–7 days; will retain freshness longer if it is refrigerated; refrigerate if weather is hot and humid and mold growth is a problem. Wrap in moisture-vapor-resistant material; wrapping when cool helps to keep bread moist.

Storage (frozen): 0°F; quick-bread storage life 2–4 months; yeast-bread storage life 6–12 months; rolls 2–4 months

2) To coat with bread crumbs, as breaded cutlets; coating should not exceed 30% of weight of finished product.

See also Boston brown bread

See Part 2: Baked Products, Frozen Storage Life; Bread and Flour Enrichment; Calcium, Daily Recommendations; Calories, Daily Recommendations; Cereal Enrichment; Food, Composition; Food Guide; Frozen Food Storage; Grain Products, Composition; Iron, Daily Recommendations; Minerals, Food; Niacin, Daily Recommendations; Nicotinic Acid, Food; Pantothenic Acid Content; Portion Size; Riboflavin, Daily Recommendations; Spoilage, Carbohydrate Foods; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Food; Wheat, Minerals; Wheat, Vitamins

bread, black (sourdough bread) Usually made from rye, often with molasses

bread, Bohemian rye A dark rye bread that is often made with a fermented or "sour" dough

bread, Boston brown A dark brown usually cylindrical loaf that is steamed or baked and made with the following ingredients:

Baking powder or baking soda and sour milk
Corn meal
Wheat flour
Milk
Molasses
Rye flour or meal
Salt
Optional ingredients
Seedless raisins
Water

Loaves are sometimes canned.

bread, cheese Made by adding 20% cheese to white, graham, or whole-wheat dough

bread crumbs Small particles of bread, $\frac{1}{16}$ - to $\frac{1}{8}$ -in. diameter

Type	How to make	Uses
Brown	Dry and bake stale bread, grind	On pies
Buttered or fried	Stir and fry in butter	Garnish
Fresh	Blend stale bread	Pudding and frying
White	Bake until dry, grind	Frying

1 lb, soft = 10 cups

1 lb, dry = 4.4 cups

1 cup, dry = 115 g (3.6 oz)

1 cup, soft = 45 g (1.6 oz)

1-2 fresh slices = 1 cup soft crumbs

1 fresh slice = 0.75 cup soft crumbs

1 dry slice = 0.25 cup fine dry crumbs

See Part 2: Grain Products, Composition; Water Activity, Organisms and Food

bread cubes

1 cup $\frac{1}{2}$ -in. cubes = 1.25-1.8 slices

1 cup dry cubes = 1.4 slices

bread, currant Tea bread with currants

bread, Easter Tea bread

bread, enriched Methods of manufacture:

Made with enriched flour

Made with enriched yeast

Flour mixed with necessary vitamins and minerals

Combination of above methods

see bread

bread, entire wheat See bread, whole wheat

bread flour See hard-wheat flour

breadfruit (*Artocarpus communis*; *A. incisa*) A

tall, tropical tree that produces fruit with up to 8-in. diam. and a thick, warty, green skin; the fruit is high in starch and is eaten after roasting; can also be preserved by fermentation; Jak (Jack fruit) is a related species with larger and more odoriferous fruit that is eaten raw or cooked (by roasting, boiling, or frying). It can be made into flour that can be used for bread. Cooked seeds are like chestnuts.

Composition: moisture 71-72%; protein 1-2%; fat 0.3%; carbohydrate 25-26%; ash 1%

See Part 2: Fruit Composition

bread, fruit Made by adding raisins or other dried fruit to white, graham, or whole-wheat dough; bread keeps well.

bread, gluten Bread made from gluten flour

bread, graham Bread made from flour that contains the outer bran covering of the wheat kernel; made from husks and entire crushed kernels of rye grass
See bread, whole wheat

bread, honey Bread that will keep for long periods of time without drying out or spoiling

bread, Irish soda A bread made with baking powder or yeast; may contain caraway seeds and raisins; soda is added to neutralize the acid of buttermilk and to act as an additional leavening agent.

bread, nut Made by adding nut meats to white, graham or, whole-wheat dough

bread pudding A bread and milk custard with different types of flavoring, such as cheese, currant, nutmeg, onion, parsley, pepper, or salt

bread, rye A bread made from a mixture of rye flour (up to $\frac{2}{3}$) and wheat flour. It keeps fresh longer than bread made only from wheat.

bread, rye, whole Made from flour of the complete seed of rye grass

bread, salt-rising White bread leavened by fermenting warm milk, salt, and corn meal

bread, San Francisco An acidic, French-type sourdough bread

bread sauce A sauce made from flavored bread crumbs cooked in milk

bread, spice Tea bread

bread, spoon A soft corn bread

bread sticks A crisp, crusted bread (10-12 in. long \times $\frac{3}{8}$ -in. diam.) that may have poppy or sesame seeds on the surface; crisp pencils of French bread with no salt coating

bread, Vienna Bread (often containing milk) that is baked in an oven that contains steam, which gives the bread a crispy, glazed crust

106 bread, walnut and raisin

bread, walnut and raisin A tea bread containing walnuts and raisins

bread wheat See **wheat**

bread, white Bread made from refined grains of wheat

Styles available:

Baked in pans

Round top

Sandwich or pullman

Split top

Twin

Twisted

Baked on oven hearth

Braided

Cottage or round

French

Vienna

See **bread**

bread, whole wheat (entire wheat bread; graham bread) Made from ground whole grain of wheat (whole-wheat flour) See **bread**

1 slice = 0.75 cup soft bread crumbs

break down To subdivide

breakdown The onset, beginning, or progress of undesirable chemical (e.g., free fatty acid formation, peroxide formation, polymerization, off flavor, off odor) or physical (e.g., darkening, gumming, foaming) changes in food; decomposition, either physical or chemical

breakdown of tissue (fruit) Decomposition of fruit cells due to a bruise or age

breakfast The morning or first meal of the day, often including some of the following: bacon; cereal (hot or cold); egg(s); juice; ham; kippers; sausage; toast

breakfast bacon Slices of cured beef

breakfast cereal See Part 2: Grain Products, Composition

breakfast cheese A round, small, limburger-type cheese See **frühstück**

breakfast link 1) A fresh sausage made with pork. If the word sausage is used in the label, then it does not have to be all pork. 2) A medium- to coarse-chopped, uncooked, unsmoked American sausage. Available in small-diameter links, rolls for slicing, machine-formed, or extruded

breakfast prune See **prune, prepared**

breakfast sausage 1) May be made from fresh or cured beef, pork, veal, lamb, or mutton, and/or frozen meat (cured or fresh beef, pork, veal, lamb, or mutton), and/or fresh or frozen meat by-products; max. 50% trimmable fat. 2) A moist, uncooked, unsmoked (smoke flavoring permitted) American sausage made from medium- or coarse-chopped, mild- or medium-seasoned beef and pork, with by-products, extenders, and binders, stuffed into a pork, sheep, or an artificial casings or not stuffed into a casing. Product is available in bulk, small-diameter links, rolls for slicing, machine-formed or extruded patties, and chubs; max. 3% (total ingredients) water can be added; max. 3.5% (finished sausage) extenders or binders may be added.

breakfast steak Steak cut from the chuck

break joint A temporary cartilage located $\frac{1}{2}$ in. above the ankle of a sheep. It has four distinct ridges.

Age of sheep	Feet removed	Joint appearance
Lamb	Break joint	Smooth, moist, red
Yearling	Break joint	Rough, hard and dry, White
Mutton	True joint (spool joint) below the break joint	White

See Part 2: Bone Age; Lamb, Wholesale Cuts

breem (*Abramis brama*) A name given to many species of fish. A European freshwater or similar type of fish; species of carp; there are also a sea breem and several Far-Eastern species called breem.

Freshwater—members of the family Cyprinidae

Sea—members of the family Sparidae

Freshwater fish:

Common (Europe), *Abramis brama*

Bony (Australia), *Fluvialosa richardsoni*

Sea breem:

Pinfish (western Atlantic), *Lagodon rhomboides*

Redfish, *Sebastes* spp.

Eastern Atlantic (See **sea breem**)

See **demersal fish**; **sea breem**

breast The sternum

See Part 2: Bone; Bone in Retail Cuts; Braising Meat; Braising Time; Lamb Chart; Lamb Cuts; Lamb Cuts and Uses; Lamb Wholesale Cuts; Lamb Yield; Meat Identification; Meat, Servings per Pound; Turkey Composition; Veal Chart; Veal Cuts; Veal Cuts and Uses

breastbone Sternum sternabrae

See Part 2: Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

breast-feeding Feeding an infant mother's milk (from the mother's breast)

breast, poultry When dressed for sale, breasts are separated from the back at the shoulder joint with a cut running backward and downward from that point along the junction of the vertebral and sternal ribs; the ribs may be removed. The breast may be cut along the breastbone to make two approximately equal halves or the wishbone portion may be removed along the breastbone to make three parts. Pieces cut in this manner may be substituted for lighter or heavier pieces for making packages an exact weight. A package may contain two or more of such parts without affecting the appropriateness of the labeling (e.g., chicken breasts). Neck skin shall not be included with the breast, except that turkey breast may include neck skin up to the whisker.

breast with ribs Breast with ribs shall be separated from the back at the junction of the vertebral ribs and back. Breasts with ribs may be cut along the breastbone to make two approximately equal halves or the wishbone portion may be removed before cutting the breastbone, to make three parts. Pieces cut in this manner may be substituted for lighter or heavier pieces for making packages an exact weight. A package may contain two or more of such parts

without affecting the appropriateness of the labeling (e.g., breast with ribs). Neck skin shall not be included, except that "turkey breasts with ribs" may include neck skin up to the whisker.

breech wool The coarsest wool of the fleece, which grows on the outer thighs and crotch area

breed 1) A race of animals having well-defined distinguishing characteristics and the ability to reproduce these characteristics in their offspring. 2) A balance of characteristics of excellent wine that includes bouquet, flavor, strength, and aftertaste

breed character A combination of masculinity or femininity with breed type features, head type being very important

breeding age First breeding:

Jersey	16 months	Beef cattle	18 months
Guernsey	18 months	Swine	8 months
Ayrshire	19 months	Sheep	12 months
Holstein	20 months		

breed type A characteristic form of a breed, along with typical color, marking, and head

brem A dried, sweet-sour or starchy-sweet, fermented, glutinous rice extract

Brem madium—yellow-white; sweet-sour flavor

Brem wonogiri—white; sweet flavor

brem bali A glutinous, rice-based, arrack beverage

bremen See goose

bremner A cracker, usually made without sugar

Types	Color
Bran	Blue
Corn	White
Dill	Orange
Oat	Brown
Poppy	Red
Regular	
Sesame	Yellow

brennevin A schnapps-type spirit made from potatoes

bresaola Dried beef

bressan A valençay-type cheese made from goat's milk

bretonne, à la Garnished with beans

breudher A round, often doughnut-shaped, open-textured sponge cake made from wheat flour. It is often moistened with sugar syrup and the center filled with fruit and cream.

brewer anaerobic agar See Part 2: Microorganism, Media

brewer's grain Used as animal feed

See Part 2: Cereal By-Products, Composition

brewer's yeast Yeast starter inoculum for beverages (e.g., beer)

Composition: dry matter 93%; protein 44%; fiber 3%; fat 0.8%; ash 6.6%

See yeast

brewis 1) Oatcake in broth. 2) A dish made of fish, bread, and pork fat

brick 1) A tilsit-type cheese. 2) A hardened block of clay
See Part 2: Insulation; Insulation, Conductivity Values

brickbat cheese An English cheese made from fresh milk

brick cheese An American, moist, semisoft, white to cream-colored (some light yellow to orange) cheese made from whole milk; contains many small holes; it may be either natural or processed; it is brick-shaped (10 × 6 × 3 in.) and has mild to sharp flavor; ripened by bacteria surface growth; often used in sandwiches. Usually heavily salted and aged for 2 months

Composition: moisture 41–42%; protein 21–23%; fat 29–31%; carbohydrate 2–3%; ash 3–4%; 159 mg Na/oz

Storage: Can be frozen (0°F) if no more than 1 in. thick; use within 6 months.

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

bricquebec A medium-flavored, semisoft, wheel-shaped cheese made from cow's milk

bridge roll A small, oval-shaped roll made from wheat flour

brie ("the queen of cheeses") 1) A dessert cheese that is flat, dish-shaped (1–3 kg), light-colored, soft, and savory; has a flowery rind and sharp flavor and is very soft when ripe; made from cow's milk; medium and small wheels ripened 4–8 weeks by external molds. 2) A soft-ripened, often full-flat delicate-flavored French cheese, made from cow's milk, with a dry-cured, edible, thin, (white, golden, or brown) powdery mold-covered crust or rind. May run at room temperature

Sizes available: $\frac{3}{4}$ –1 in. thick; 15–20 in. (2 kg) or 4–6 in. diam.

Types:

Coulommiers (full fat)

Gras (full fat)

Maigre (low fat)

Meaux (full fat)

Melun (full fat)

Migras (half fat)

Composition: moisture 45–51%; protein 20–22%; fat 26–30%; carbohydrate 0.4–0.6%; fiber 0%; ash 2–4%; salt 2%; 178 mg Na/oz

Storage: refrigerate, tightly covered; use within 2 weeks; dries out quickly if not protected; does not keep well

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

brie de Coulommiers A soft, full-fat, dry-cured cheese made from cow's milk and matured 4–6 weeks; it is small, flat, and disk-shaped with a white mold covering.

brie de Meaux A soft, full fat, fruity, dry-cured cheese that is made from unpasteurized cow's milk, matured 4–6 weeks, and has a white mold covering

brie de Melun A soft, full-fat, dry-cured cheese made from unpasteurized cow's milk; it has a dark rind and is usually matured 7–10 weeks

brie de Montereau A soft, small (400 g to 1 kg), full-fat, matured cheese made from unpasteurized cow's milk, with a dark rind and dry crust

brie laitier A camembert-type cheese made from pasteurized milk and matured for 3-4 weeks

brigg A weak alcoholic beer

Briggsian logarithms See **logarithm base 10**

brightness A term applied to the color of wool

bright wool Wool of a clean nature and uniform shrinkage; produced east of the "semibright" area

brill A flat, turbotlike fish (a small species of the turbot family), similar to the flounder sea fish. Many similar-looking fish are often called brill.

North Sea, *Rhombus laevis*, syn. *Scophthalmus rhombus*

Northwest Atlantic, *I. ophopsetta maculate*

Oceania *Colistium guntheri*

Pacific, petrale sole

brillat-savarin A medium-sized (500 g) excelsior-type cheese

brilliant-green agar See Part 2: Intestinal Microorganisms; Microbiological Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

brilliant green bile See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

brilliant green bile broth A liquid medium for coliform test

See Part 2: Microbiological Media; Microorganism, Culture Media, Dairy and Food Products

brilliant green lactose See Part 2: Microbiological Examination of Dairy Products

brina dubreala A white, brined cheese made from sheep's milk

brin d'amour A valençay-type cheese made from goat's milk and matured for 3 months on herbs

brine Sodium chloride dissolved in water; natural brines contain from 2.6% (sea water) to 20% or more, plus other salts. Brine strength depends on the proportion of salt to water and not on other possible ingredients. Used to preserve butter, fish, meat, and vegetables

Types:

Weak brine—permits fermentation to an acid

Sauerkraut—2-3% salt/lb cabbage

Dill pickles— $\frac{1}{2}$ lb salt/gal water

Medium brine—to check fermentation and to store fermented products; $1\frac{1}{2}$ lb salt/gal water

Strong brine—used when no fermentation is desired; 2 lb salt/gal water

See Part 2: Brine, Meat Curing; Meat Curing Ingredients; Salt, Brine; Salt, Brine Table; Salt Penetration Rate; Salt Solution, Freezing

brine injection The injection of brine into muscle tissue. It is a more rapid curing technique than brine soaking.

brine soaking Placing meat in a mixture of water, salt, and cure (nitrite or nitrate) until the brine penetrates the total tissue

brine strength Proportion of salt to water; no other ingredients are included in determining strength. See **salimeter**

bringall (brinjal) See **eggplant**
See Part 2: Vegetable Storage

bringupyls A moist, cooked, smoked Icelandic sausage made from finely chopped, medium-seasoned beef and pork, with pork fat added, stuffed into an artificial casing

brinsen See **klencz cheese**

briny A salty or sour taste

brinza (brinzen; brinsen) A Hungarian (Carpathian mountains), white, brined cheese, also known as Liptau, made from ewe's milk or the mixed milk of sheep and goats and rennet

See Part 2: Vitamin A, Milk and Milk Products

brioche A soft, sweet, yeast breakfast roll. A rice and wheat-flour bread that is high in eggs and fat and sometimes contains dried fruit

brjol See **limburger cheese**

brioler A soft to semisoft, strongly flavored, surface-ripened (bacteria) cheese made from cow's milk

brisegout A low-fat, pale green cheese made from cow's milk and often eaten fresh

brisk A lively taste; the opposite of a flat or soft taste

brisket The front of the breast of quadruped animals. It may be cooked fresh, or cured for corned beef.

See Part 2: Beef, Boneless Cuts; Beef Chart; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Wholesale Cuts; Bone in Retail Cuts; Meat Identification; Riboflavin, Food

brisling (Scandinavian sardine) A small, smoked, sardinelike food fish of the herring family; a smoked sardine See **sprat**

bristle A stiff hair, e.g., hog hair

britch Fleece that comes from the rear legs of sheep.
See also **breech wool**

British gum See **dextrin**

British Landrace A white breed of British swine

British pharmaceutical codex See Part 2: Minerals (Trace), Limits

British pharmacopoeia See Part 2: Minerals (Trace), Limits

British Proof Spirit An alcoholic beverage that contains 57.07% alcohol by volume (49.24% by weight) at 15.6°C

British Saddleback The Essex and the Wessex groups of hogs

British thermal unit (B; Btu) A measure of heat, energy, and work

1 Btu = heat required to raise the temperature of

1 lb of water 1°F

= 1054.90 joules (J; 10⁷ erg)

= 778.169 foot-pounds (ft-lb)

= 252 gram-calories (cal)

= 107.577 kilogram meters (kg-m)

- 1 Btu = 1.0550 ergs
 = 0.252 kilogram-calorie (thermal units)
 = 0.0003984 metric horsepower-hours (75 kg-m-h)
 = 0.0003930 U.S. horsepower-hours (hp-h)
 = 0.0002930 kilowatt-hours (kw-h)

British thermal unit per hour (Btu/h) A measure of power, rate of energy, and heat

- 1 Btu/h = 0.2931 watts (W)
 = 0.2162 foot-pound per second (ft-lb/s)
 = 0.07 gram-calorie per second (cal/s)
 = 3.929×10^{-4} horsepower (hp)

British thermal unit per minute (Btu/min) A measure of power, rate of energy, and heat

- 1 Btu/min = 17.57 watts (W)
 = 12.96 foot-pounds per second (ft-lb/s)
 = 0.02356 horsepower (hp)
 = 0.01757 kilowatts (kW)

British thermal unit per second (Btu/s) A measure of power rate of energy, and heat

- 1 Btu/s = 1054.90 watts (10^7 erg/s)
 = 778.104 foot-pounds per second (ft-lb/s)
 = 107.577 kilogram-meters per second (kg-m/s)
 = 1.43436 metric horsepower (75 kg-m/s)
 = 1.41474 U.S. horsepower (550 ft-lb/s)
 = 1.05490 kilowatt (kW)
 = 0.3 tons of refrigeration
 = 0.25200 kilogram-calorie per second (thermal unit per second)

British thermal unit per square foot per minute (Btu/ft²-min)

- 1 Btu/ft²-min
 = 12.2 watts per square inch (W/in.²)

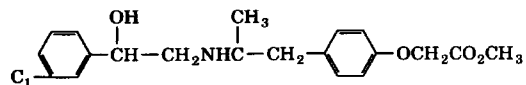
British wines Wines containing 16% alcohol by volume

brittle 1) Easily broken, leaving sharp edges. 2) A hard, brown, noncrystalline candy, including butter-scotch, nut brittle, and toffee; a hard syrup or molasses candy, usually containing nuts (often peanuts), that is easily broken; a hard nut candy *See* **candy**

Brix A scale for measuring sugar (sucrose) content; percentage by weight of sugar in a sucrose solution; each degree of Brix equals 1% sucrose. The scale in degrees refers to the percentage by weight of soluble solids. A hydrometer is used for testing the sugar content of syrups

See Part 2: Brix Table; Brix, Temperature Correction; Cherry Brix; Sugar Solutions

BRL 35135



A beta-agonist that is orally active and stimulates lipolysis

broad bean (dhal; faba; fava; field; fool; horse bean; mazagan; tic; tick; Windsor; *Vicia faba*)
 A large-podded (4–30 cm) bean; young pods are cooked whole or sliced, or the bean may be harvested when

fully grown, shelled, and cooked. Seeds are buff, brown, green, purple, or black, 2–6 per pod, 1100–6500/kg. Can be used as silage; animal feeds should not contain over 30% of this bean because it contains a trypsin inhibitor.

Composition	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Dry mature seed	12	25	2	58	3
Immature seed	72	8	0.5	18	1

broadbill *See* **swordfish**

broadcast Application over an entire area

broadleaf endive *See* **escarole**

broccio A sour, ricotta-type, fresh or semidry cheese made from ewe's or goat's milk

broccoli (calabrese; asparagus broccoli; Italian sprouting broccoli; *Brassica oleracea botrytis*)
 An annual, 2- to 3-ft, cool-weather, sulfur-containing vegetable (variety of cauliflower) whose stalks, leaves, and flower clusters are used as food; winter cauliflower. 9000–10,500 seed/oz; germination period 5–10 days; plant 2 ft apart in rows 2½ ft apart; matures in 70–80 days and will continue to produce buds for 30–45 days; yields ⅓ bu./plant.

Types:

- Green sprouting (calabrese)—loose terminal head of green flower buds; may be boiled; used in soups and purée; often quick-frozen or canned
- Heading—curd is white and compact, like cauliflower; difficult to grow
- Nine Star Perennial—sprouting broccoli with a head like cauliflower
- Sprouting (*Brassica oleracea* var. *botrytis* or *italica*)—produces a number of loose terminal, white or purple (turns green on cooking) heads, rather than a compact head

Frozen styles available:

- Broccoli cuts or pieces
- Chopped broccoli
- Short spears or florets (head with a short portion of the stalk)

Whole spears or stalks

Canned, asparagus-style:

Normally with two heads per can

Can be served raw in a salad, but usually boiled briefly (boil or steam 10–15 min or until tender) and served with a sauce or butter; will become tender with only a few minutes of cooking

Defect action level (frozen broccoli): average of 60 aphids, thrips, and/or mites per 100 g

Refuse: 50% leaves and tough stalks

- 1 crate, fresh = 25 lb
 = 24 pt, frozen
- 1 bunch, fresh = 1–3 lb
 = 1.5 lb flowerets
- 2 lb, fresh = 1 qt, frozen
- 1 pound, fresh = 2 cups, cooked
 = 6 (bite-sized pieces)
 = 3–6 servings
- 9–10 oz, frozen = 3 servings
- 1 stalk, boiled, drained = 6.3 oz

Variety	Where grown (U.S.)	Growth habits	Plant	Head
Atlantic	Northeastern Atlantic Coast	Fast-developing	Dwarf	Med.-large, round and compact
Bravo	Eastern Canada and U.S.	Early, 65-110 days, 50-80 days after transplanting	16 in.	9 in.; blue-green
Calabrese Coastal	West; Central; East	Standard, fast-growing	Short, compact	Little division, small buds; good color
DeCicco (Italian Green—Calabrese)	Central; East	Standard early, 60 days	Med.	Light green, cauliflower-like head; freezes well
Early One	Central; East	Standard, fast-growing		
Gem		Early, 65-110 days, 50-85 days after transplanting		
Green Comet	South	Very early, 65-110 days, 50-85 days after transplanting		Large, 7 in., 1 lb; uniform; used fresh; freezes well
Green Sprouting Late (Italian Green—Calabrese)	California; Central; East	Long season, 55 days		
Green Sprouting Medium (Italian Green—Calabrese)	Pacific Southwest; Central; East	Standard, midseason	Large	Large, compact head; side heads
Pacifica	West	Standard		
Premium Crop		Early, 65-110 days, 50-85 days from transplanting	22-24 in. tall	Large, 8 in.; firm; medium green; used fresh; freezes well
Spartan Early	Central, East	Standard, early, 76 days, 46 days after transplanting	Compact	6-8 in.; later, lateral heads
Topper Waltham 29	West Northeastern Atlantic Coast	Standard Late	Large, stocky	Broad central head; side heads; blue-green

1 serving = $\frac{1}{4}$ bunch
= 0.5 lb

1 cup, finely chopped = 0.3 lb

1 cup, frozen, chopped = 10 oz

1 cup, flowerets = 0.3 lb

1 cup, cooked = 165 g (5.8 oz)

Composition (raw spears): moisture 89%; protein 4%; fat 0.3%; carbohydrate 6%; ash 1%; pH 6.5

Composition (cooked): fiber 2.1%; pH 5.6-6.5

Storage: refrigerator crisper (32°F) or plastic bag; 90-95% relative humidity; use in 1-7 days; frozen (0°F) storage 1 yr; also kept in pits or cold cellars

See Part 2: Ascorbic Acid; Cabbage Looper; Calcium, Daily Recommendations; Calories, Daily Recommendations; Food, Composition; Frozen Food Storage; Iron; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Minerals, Food; Niacin; Nitrate, Vegetables; Phosphorus; Plant Foods, Composition; Planting Density; Potassium; Riboflavin;

Storage; Sugar, Vegetables; Thiamin; Vegetable Boiling; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Cooking Frozen; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Servings; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin A; Vitamin A, Daily Recommendations; Vitamin C

broccoli raab See raab

broch Fermented wheat or rice bran

brochette, en Cooked on a skewer or spit

brocotte A ricotta-type cheese made from cow's milk

brocq A panir-type cheese made from cow's milk

brodokono Chindanda made with maize and plantain

broil To grill *See* **broiling**

broiled Cooked by broiling

broiler 1) A young chicken, from 1-3½ lb, that is tender-meated with soft, pliable, smooth-textured skin and flexible breastbone cartilage. 2) A device for grilling

See Part 2: Bone Age; Poultry Composition; Poultry Dressing Percentage; Poultry Roasting; Poultry Yield

broiler-fryer 1) A chicken of either sex from 9-12 weeks old

1 cut-up and skinned broiler-fryer = 2.5-5 lb

2) A duck of either sex about 8 weeks old

broiling A dry-heat method of cooking used for the more tender cuts; the meat is exposed directly to the heat.

See Part 2: Beef, Cooking; Beef Cuts; Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Lamb Broiling; Lamb Cuts; Lamb Cuts and Uses; Pork, Cooking; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Poultry Class; Variety Meat, Cooking; Variety Meat Preparation; Veal Cuts and Uses; Vitamin Retention, Meat

broken mouth A sheep having some missing teeth

bromate To treat with calcium or potassium bromate, e.g., calcium bromate (dough conditioner), potassium bromate (bread improver)

bromatology The science of foods and dietetics

bromcresol green (C₂₁H₁₄Br₄O₅S) A pH indicator that has a pH range 3.8-5.4. It is yellow in acid and blue in the base direction. Use 0.1 g in 250 ml ethyl alcohol

bromcresol purple An indicator that is yellow at pH 5.2 and purple at pH 6.8; 0.1 g in 9.25 ml N/50 NaOH; dilute to 250 ml.

bromegrass (*Bromus*) A type of oat; some species are considered weeds. Used for silage and hay; 14 lb/bu; plant 6 lb/acre

Field (annual) bromegrass (*B. arvensis*)—winter cover or green-manure crop

Smooth bromegrass (*B. inermis*)

bromelin (bromelain) An enzyme found in pineapple and used to tenderize meat

brominated vegetable oil (BVO) An oil made by addition of bromine (iodine value of 16 max.) to unsaturated fatty acids; used in citrus-flavored soft drinks as a flavoring agent and/or beverage stabilizer; also used in ice cream and bakery goods

Iodine no.	Made from	Sp. gr.
80-90	Olive	1.24
105-115	Sesame	1.33
	Corn	
	Cottonseed	

Because this produce accumulates in body fat, it has been removed from the GRAS list and specific levels have been established. It was banned in Sweden in 1968 and in Great Britain in 1970.

Storage: well-closed container

bromine (Br) A liquid halogen element; at. no. 35;

at. wt. 79.916; Group VIIA of the Periodic Table;

electron configuration 2-8-18-7

orbit K L M N

oxidation states +1, +5, +3, -1

See Part 2: Normal Solutions; Sanitizers

bromphenol blue (C₁₉H₁₀Br₄O₅S) A pH indicator with a pH range 3.0-4.6. It is yellow in the acid and purple in the base direction. Use 0.10 g in 7.45 ml of 1/50 N NaOH and dilute with water to 250 ml

bromthymol blue An indicator that is yellow below pH 6.0, green between 6 and 7, and blue above 7; 0.1 g in 100 ml of 50% alcohol

bronte A sweet liqueur flavored with honey

bronx cocktail A mixed drink similar to the martini

bronze *See* Part 2: Turkey Varieties

bronze beauty lettuce Leaf lettuce with reddish-tinted leaves *See* **lettuce**

bronzing *See* **citrus rust mite**

broodiness Willingness to sit on eggs and incubate them, as in chickens and ducks

broodkaas A loaf-shaped type of gouda cheese

broodkaase A hard, flat Dutch cheese

brood sow A sow kept for the production of pigs

broody Describes a hen during the time she sits on eggs to incubate them. (No eggs are laid during this time.)

brook trout (*Salvelinus fontinalis*) A finfish used for food, with light meat and a very light, delicate flavor *See* **trout**

broomcorn Seed 44-50 lb/bu *See* **millet**; **sorghum**
See Part 2: Poisonous Plants; Seed, Germination

broome, yellow The buds, in vinegar, are used as a substitute for capers

broomweed Several species of plants have this common name

Genus	Region of growth
<i>Corchorus siliquosus</i>	Tropical
<i>Gutierrezia texana</i>	Southwest United States
<i>Scoparia dulcis</i>	Tropical and subtropical
<i>Sida</i> or <i>Triumfetta</i>	Tropical

See Part 2: Poisonous Plants

brose An oatmeal dish to which water and butter are usually added, and sometimes also cabbage, honey, meat, milk or cream, mussels, or whiskey

brötchen A wheat-flour roll

broth A thin, clear soup. An extract from meat, vegetables, or grain, cooked in water

Storage (leftovers): highly perishable; cover and refrigerate; use in 1-2 days

See **bouillon**

See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

brotwurst A moist, cooked, smoked American sausage made from medium-chopped, mildly seasoned beef and pork, sometimes with cereal and non-fat dry milk (NFDM), stuffed into a pork or an artificial casing

Composition: moisture 51%; protein 14%; fat 28%; carbohydrate 3%; ash 3.7%; 315 mg Na/oz

brouilly A fruity, red wine

brousse du rove A ricotta-type cheese made from sheep's milk; usually consumed fresh but sometimes matured

brousses A cheese made from ewe's milk

broux de noix A French liquor made from wine and crushed walnuts

brown To make food brown by cooking (baking, broiling, frying, sautéing); to seal the surface of meat with heat

brown ale Dark and sweet beer; a stout

brown-and-serve See **precooked breakfast link**

brown-and-serve sausage Fully cooked (precooked) pork sausage that can be heated and served
Composition: max. fat 30% (at formulation 35% fat); moisture 10% added water; moisture-protein ratio 3.7:1; yield (weight) not more than 80% of fresh sausage

See Part 2: Meat Composition

brown-and-serve sausage, canned A cooked sausage, usually without cure; max. 8% added water

brown betty 1) A hot or cold drink made from ale. 2) A pudding made from fruit and bread crumbs

brown bread Bread made from a high-extraction wheat flour

brown butter sauce A well-cooked butter flavored with herbs, capers, and lemons; used as a sauce

brown gravy

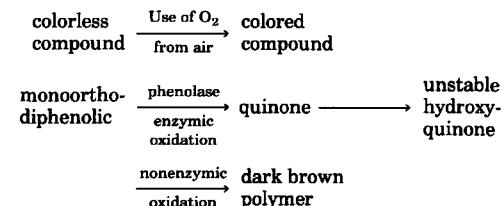
Composition	Dehydrated	Prepared with water
Moisture (%)	5.1	99.1
Protein (%)	11.0	0.1
Fat (%)	7.9	0.1
Carbohydrate (%)	59.7	0.6
Fiber (%)	0.5	0
Ash (%)	16.3	0.2

Brownian movement Continuous zigzag motion of small particles in a suspension caused by bombardment of molecules of the dispersion medium

brownie A rich and chewy chocolate cookie made of baking powder, butter, eggs, and flour

Composition: 90 calories per $1\frac{3}{4} \times 1\frac{3}{4} \times \frac{7}{8}$ -in. brownie with nuts; 69 mg Na/32 g (iced)

browning 1) Darkening of the cut surface of some fruits (e.g., apples, peaches, pears) and vegetables (e.g., potatoes) and darkening of some fruits (e.g., peaches) during frozen storage



2) The change of color with age of red wine to brown

browning reaction (Maillard reaction; nonenzymatic browning) A nonenzymic reaction involving amino acids and reducing sugars that determines the color of many processed foods. It causes discoloration of freshly peeled fruits and vegetables and occurs in some canned fish products. It also causes flavor changes (e.g., in maple syrup flavor, the caramelized flavor of canned milk, caramel candy). It may be inhibited by ascorbic or citric acid.

brown leaf spot (*Helminthosporium oryzae*) A rice disease caused by a fungus that attacks the seedlings and the leaves and heads of older plants. It may be controlled by cultural practices.

brown mite (*Bryobia rubrioculus*) A pest of pears; adult is dull red to greenish and flattened, with long legs; damaged foliage is bronze in appearance and interferes with normal fruit development.

brown rice Hulled, unpolished grain; contains more minerals and vitamins than polished white rice. 80% of paddy rice See also **rice**; **unpolished rice**

brown roll A roll made from whole-meal or high-extraction wheat flour

brown rot (bacterial fruitlet rot; black rot; black spot; exogenous brown discoloration; fruitlet black rot; fruitlet brown rot; fruitlet core rot; marbled fruit; ripe fruit rot; *Monilinia fructicola*; *M. laxa*) 1) A fungus that affects peach, apricot, nectarine, plum, and cherry blossoms, fruit, spurs, and shoots. Infected blossoms wilt and turn brown, small cankers are formed on spurs and shoots, branches and twigs. Fruit will decay starting with light brown spots on the surface and often ending with a velvety growth on the surface.

Control: Destroy all blighted material; use a fungicide spray; handle fruit carefully and cool after harvest.

2) Rotten brown spots that develop on pineapple, caused by *Penicillium* spp., *Fusarium* spp., or bacteria (*Erwinia ananas*; *Pseudomonas ananas*), usually not detectable from the outside of the fruit but eyes may become brown or sunken as fruit develops. The fruitlet is brown, moist, firm, and mottled. 3) A fungal disease of nectarines that produce ash-gray powdery spores on infected parts. 4) Citrus fruit rot caused by several *Phytophthora* species. The first symptom is a slight olive drab or brownish tan rind color; later the color is dark greenish brown. The decay is usually firm and leathery. The fungi grow very slowly below 50°F.

brown sauce (espagnole) A beef-stock sauce that is the base for most special sauces See **bead molasses**

brown sherry A sherry made by blending olorosos with sweetening and coloring wines

brown spot (*Helminthosporium oryzae*) A fungal disease that causes brown spots on the leaves of rice

brown staining A diffuse, irregular, tan to brown, superficial discoloration of the peel of citrus fruit stored at 32–34°F. It usually fades after removal to room temperature.

brown sugar (Ivory to dark brown) Sugar made from sugar cane or beets that has not been as highly refined as white sugar; still contains some of the molasses

Brown Swiss A dairy-type breed of cattle that originated in Switzerland; solid color from light to dark brown

See Part 2: Dairy Cattle Breeds; Gestation Periods; Milk Breeds, Composition; Milk Composition

brown trout (*Salmo trutta*) A food fish See trout

browse The twigs, stems, leaves, fruit, or pods of woody plants that are eaten by animals

Brucella A genus of nonmotile, short, rod-shaped to coccoid, Gram-negative, encapsulated microorganisms; causes brucellosis, contagious abortion (Bang's disease), and undulant fever (Malta fever)

See Part 2: Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

brucellosis (Bang's disease; contagious abortion; undulant fever in humans) A cattle disease caused by *Brucella abortus*, *B. suis*, or *B. melitensis* that destroys cotyledons and causes a loss of a large percentage of calves; calfhood vaccination is available. The human disease is called undulant fever, or Malta fever. The organism is destroyed by pasteurization.

See Part 2: Diseases, Food-Borne; Illness from Food; Infectious Diseases, Food-Borne; Microbiological Media

bruder basil A processed cheese made from cow's milk, sometimes with chopped ham added

bruhpolnische A moist, cooked, smoked East German sausage made from medium-seasoned, medium-chopped beef and pork stuffed into a pork casing

bruhwurst (roast bratwurst) A moist, cooked, unsmoked East German sausage made from fine- or medium-chopped, medium-seasoned beef stuffed into a beef or an artificial casing See lunchwurst

bruise An injury causing swelling and discoloration

brûle A rich (milk, egg, cream) frozen dessert; food served with caramelized sugar

brunch A midmorning meal that has some of the characteristics of breakfast and some of lunch

brunello A dry, full-bodied, strong red wine

brunello di Montalcino A great red Italian wine produced from Sangiovese grapes and matured for many years

brunoise 1) Finely dried vegetables. 2) Finely shredded vegetables. 3) A mixture of vegetables. 4) Diced vegetables used for flavoring

brunswick stew A meat (chicken, rabbit, or squirrel) and vegetable (tomato) stew

brunwurst A fine- to coarse-chopped batter-type, cooked, smoked or unsmoked American sausage available in medium- to large-diameter links or large-diameter casings for slicing

brush 1) Hair at tip of wheat kernel; gynoeceium of hop

See Part 2: Wheat Kernel

2) To apply marinade, butter, or other liquid to food with a pastry brush. 3) Economically useless woody plants; woody weeds

brusselae cervela's A moist, cooked, unsmoked Belgian sausage made from heavily seasoned beef and pork stuffed into beef casings

brusselskaas A low-fat, high-protein, semisoft cheese (150–200 g) made from cow's milk and washed with water during maturing

Brussels sprouts (*Brassica oleracea* var. *gemmifera*) The firm, compact, green auxiliary buds, or sprouts (average 100/plant, 1–1.5 in. diam.), on long stalks (as much as 30 in.) of this plant resemble miniature cabbages and are used as a green vegetable; a sulfur-containing vegetable whose whole leaf is used as food. The plant originated in Belgium and is in season from Sept. through March. 8000–11,200 seed/oz; germinates in 12 days. Plant 2 ft apart in rows 2.5 ft apart; matures in 100–120 days; yields $\frac{3}{5}$ qt/plant. Sprouts are firm, unwrinkled, and vivid green when fresh.

To cook: Boil 10–15 min or until tender.

25% stalks and outer leaves as refuse

4 1-qt boxes, fresh = 6 pt, frozen

2 lb, fresh = 1 qt, frozen

1 lb, fresh = 4 cups

= 4–6 servings

= $2\frac{1}{2}$ cups, cooked

10 oz, frozen = 3 servings

1 cup, fresh = 100 g (3.6 oz)

1 cup, cooked = 180 g (6.4 oz)

1 cup, boiled, drained = 6–8 sprouts
= 5.5 oz

1 servings = 0.5 pt
= 0.25 lb

Size:

1) $\frac{3}{4}$ –1 in.

2) 1–1.25 in.

3) 1.25–1.50 in.

4) 1.50 in. or more

Variety	Yield and size	Season
Catskill		
Early Morn	Large; elliptical	105 days
Jade Cross (F1)	Heavy; med. size; oval; dark green	Early or late 80 days
Long Island Improved	1–1.5 in.; globe; med. green; med. size	Fall 90 days

Composition (raw): moisture 85%; protein 5%; fat 0.4%; carbohydrate 8%; ash 1%; pH 6.3

Storage: May be quick-frozen. If fresh, place in refrigerator crisper (32°F) or plastic bag (90–95% relative humidity); use within 1–21 days.

See Part 2: Ascorbic Acid; Frozen Food Storage; Iron; Microwave Cooking, Frozen Vegetables; Minerals, Food; Niacin; Phosphorus; Plant Foods, Composition; Planting Density; Potassium; Potassium-Rich Foods; Riboflavin; Storage; Sugar, Vegetables; Thiamin; Vegetable Boiling; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Storage; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin C

114 brut (nature) champagne

brut (nature) champagne A very dry (i.e., not sweet), unsweetened, light wine, with a piquant yet delicate flavor, made in France

bruxelles cheese A soft, fermented Belgian cheese made from skimmed cow's milk

bryndza A white, brined cheese made from goat's or sheep's milk

B.T.U. (board of trade unit)

1 B.T.U. = 100 watt-hours

Btu See **British thermal unit**

bual (boal) A variety of grape; a pale yellow wine

bubod Gray-white, dried balls of starter, containing bacteria, molds, and yeast on starch or cereal base and used as an inoculum for sake

bucelas A dry, fragrant white wine

Büchner, Eduard Showed that enzymes could act outside the cell

Büchner funnel A porcelain funnel with a fixed, horizontal, perforated plate, which supports filter paper, allowing a large area of supported filtration

buck An uncastrated male sheep, goat, deer, antelope, hare, or rabbit

bucket (British dry) A measure of volume
1 bucket = 1.8184×10^4 cubic centimeters (cm^3)

buckeye (*Aesculus*) A poisonous plant
See Part 2: Poisonous Plants

Buckeye (chicken) An American class of chickens that lays a brown-shelled egg. Color: mahogany, undercolor red; tail feathers, black

buck-kneed Knees bent slightly forward

buckling (pickling) 1) A salted, hot-smoked (at 212°F, which also cooks) herring.

See Part 2: Fish, Smoke-Cured

2) A can defect that results in permanent distortion of the end; sidewalls of a can in convex position, which is caused by too low a vacuum during processing; condition may become bad enough to burst seams

buck shad See **shad**

buckshot soil (gumbo) Limestone land in Texas, Oklahoma, and a few other states that contains large quantities of lime and becomes very sticky when wet but crumbles into small particles when dry

buckthorn plantain See **hartshorn**

buckthorn bark A dried, seasoned (2 yr) bark, that has a sweet to bitter taste; this product is used as a tonic

buckwheat (beechwheat; blé sarrasin; saracen wheat; *Fagopyrum esculentum*, *F. tartaricum*, or *F. emarginatum*) A hardy, grass-like herb that produces a three-cornered seed (kasha or buckwheat groats); used principally for pancakes. It usually is supplemented by other flours to bake bread; it has a bitter flavor and does not keep well. Seed 1-1.25 bu/acre

1 bu = 48-52 lb

1 qt = 1.6 lb

1 cup, sifted = 3.5 oz

Composition (whole grain): moisture 10%; protein 11%; fat 2.5%; carbohydrate 75%; ash 2%; fiber 10.4%

Used in:

Beer

Bread

Griddlecakes

Honey (made from the blossoms by bees)

Liquor

Pancakes

Porridge

Pudding

See Part 2: Cereal Composition; Grain Products, Composition; Minerals, Food; Pantothenic Acid Content; Seed, Germination

buckwheat bran The covering of buckwheat; 1 lb/qt; 29 lb/bu

buckwheat cake Buckwheat pancakes, usually consumed with maple syrup

buckwheat flour A gray flour, speckled with black (part of the hull), made from buckwheat; obtained by sifting buckwheat meal. It is mixed with other flour (often wheat) when used for pancakes (some are fermented) and cakes, due to its strong flavor.

100 lb buckwheat flour = 3.5 bu buckwheat

Composition: moisture 12%; protein 6-15%; fat 1-3%; carbohydrate 68-80%; ash 1-2%

buckwheat grits Coarsely ground buckwheat

buckwheat groats Whole-kernel buckwheat that has been cracked without grinding
Storage: tightly closed container in a cool place; freeze for longer storage.

buck wool Wood from rams; coarser and with higher shrink than wether or ewe wool

buco Dried flour made from fermented pseudostem of ensete or false banana

bucwala A sorghum beer

bud 1) Conical swelling found at each node. 2) An undeveloped shoot, stem, flower, or leaf. 3) Young bovine animal

See Part 2: Vegetable Classification

budapest salami A dry, uncooked Australian sausage

budding A reproduction method used by yeast; asexual reproduction in which a small amount of protoplasm and some nuclear material pinches off from a cell

budding stick A young shoot of one season's growth

bud moth See **pecan bud moth**

bud rot A leaf disease of strawberries that is caused by a fungus (*Rhizoctonia* spp.). There is no known way to prevent bud rot.

budu 1) A fish sauce made from anchovies (*Stolephorus*), sugar, and sometimes tamarind (*Tamorindus indica*). 2) Fermented, salted, dried whitebait or anchovies

budworm Any of several worms that eat plant buds
See Part 2: Insect Control

buff See **goose**

buffalo 1) American buffalo or American bison (*Bison bison*), also called Indian cattle; a type of cattle, usually humped, native to the western United States; weighs up to 3000 lb and has 14 pairs of ribs. 2) Heavy oxen of the Old World (domesticated in the

Orient) that feed on water plants; in India, *Bos bubalos*; See also **bison**

See Part 2: Meat and Meat Products, Composition; Milk and Cheese Composition; Milk, Mammals, Composition

buffalo berry or currant (Nebraska currant; rabbit berry; *Elaeagnacae*: *Shepherdia argentea*) A North American shrub or tree that has a small, round, yellow or red, tart, acidic, edible, one seeded, fruit used for pies, sauce, jellies, preserves and a meat sauce

buffalofish (winter carp; *Megastomatobus cypri-nella*) A Mississippi freshwater, large (10 lb), sucker-type finfish that is used for food and has light meat, firm flesh, med. fat content (5.9%), and light to moderate flavor

Types:

Black

Largemouth

Smallmouth

buffalofish, bigmouth (*Iciobus cyprinellus*) A food fish with an average fat content and white flesh

buffalo treehopper (*Stictocephala bubalus*) An insect that injures the bark of pear trees

buffer A mixture of compounds that, when added to a solution, protects it from any substantial change in pH. Such mixtures are usually in solution form and contain either a weak acid and its related salt or a mixture of two acid salts. Buffering compounds often used are carbonates phosphates, and ammonium salts. The acid-base balance of the blood is controlled by the presence of carbonic (a weak acid) and bicarbonate (its related salt).

See Part 2: Buffer Solutions; pH, Buffer Solutions

buffer capacity The ability of a substance (e.g., food) to resist change in pH values

buffer stocks Product stored to moderate extreme price fluctuations

buffet A meal in which the dishes are placed on a sideboard, the diners serving themselves and eating either standing up or seated informally

buhobe A sour-dough, fermented cassava (with or without cereal) dumpling

buhoko A sorghum beer

buhwurst A finely to coarsely chopped, cooked, smoked or unsmoked American, large-diameter, link or ring sausage

builder's lime (plastering lime; hot lime) Pulverized limestone rock that is burned to drive off the calcium dioxide. A liming material composed of 85% CaO; each pound has the neutralizing equivalent of 1.5-1.75 lb of CaCO₃ (or approximately this quantity of dolomitic limestone).

bukella A moist flour made by fermenting the pseudostem of *ensete* or false banana

bulb The resting state of a plant with a subterranean bud composed of scale-like overlapping leaves that contains food for regrowth (e.g., onion)

See Part 2: Vegetable Composition; Vegetables, Classification

bulb and stem nematode (*Ditylenchus dipsaci*) An extremely small worm that sometimes attacks strawberries

bulbourethral (Cowper's) gland A gland at the root of the penis, with a function similar to that of the prostate

Bulgarian buttermilk High-acid (2-3% lactic acid) fermented buttermilk

Bulgarian white A white, brined cheese made from sheep's milk

bulgur Cracked wheat that retains the bran and germ of the grain; sometimes called parboiled wheat; it is cooked, dried, partly debranned, and cracked; in nutrition it resembles whole wheat; it is faster-cooking than cracked wheat.

bulimia Abnormal hunger

bulk Indigestible carbohydrate (in fruit, leafy vegetables, and whole-grain cereals) that is useful in stimulating passage of food in the large intestine

bulk cheese Canadian cheddar

bulk comb honey See **chunk honey**

bulke A tea bread containing fruit and nuts

bulk index Number of cubic centimeters required for 100 g

bulking Mixing desolventized oleoresin, oleoresin essential oil, diluent, emulsifier, etc. to make a finished product

bull Uncastrated male cattle (bovine); has secondary sexual characteristics

bulls Flour made from fermented pseudostem of *ensete* [Abyssinian banana (*Ensete ventricosum*)] or false banana

bullace A plumlike tree and its fruit, which is used to make jam

bull blood A red wine

bullhead A number of types of catfish See **catfish**

bull hide A hide of a mature male uncastrated cattle weighing from 60 to over 100 lb

bullis A wild purple grape used for jams and jellies

bullish An upward price trend on the market

bull meat Boneless beef tissue from bull carcasses; boneless beef

bullock A young bull; a mature steer, ox, or stag

bullock beef Muscle tissue from young (usually under 24 months) male cattle

bullock's heart See **annonaceous fruit; custard apple**

"bull's blood" (*ergi bikavar*) A robust, full-bodied, deep-red, mildly dry Hungarian wine

bull's eye A mixed drink made from brandy, hard cider, and ginger ale

bully beef Salted and spiced beef; corned beef

bulochki A rye bun

bulochnaya White bread

bulrush (family Cyperaceae) An aquatic plant; leaves and shoots are used as salad; the starchy root is also edible.

bummalo An Indian fish that is often dried and canned

bun A round, sweet, soft-baked product; usually leavened; usually made from wheat but sometimes from rye; may contain fruit. 1) A soft, round roll used to make a sandwich. 2) Glazed cake. 3) Small, sweet cake *See* roll

bund Dike; an embankment

bundle of His (Wilhelm His, Jr., German physician) Connecting length in the heart between the atrioventricular nodes

bundner beinwurst A moist, semidry or dry, cooked or uncooked, smoked Swiss sausage made from coarsely chopped, medium seasoned beef and pork stuffed into a beef casing

bundnerfleisch Dried, smoked beef

bung A natural casing used in the meat trade; in beef it comes from the caecum and in hogs it comes from the terminal end of the large intestine.

See Part 2: Casings, Animal; Casings, Hog and Beef; Casings, Hog Bungs; Casings, Terms

bun loaf Tea bread rich in eggs but with no fruit

bunt and dwarf bunt (stinking smut; *Tilletia* spp.)

A disease of wheat that causes gray or black smut balls smaller than wheat kernels. Wheat must be washed or scoured before milling.

bunuelos Fried, round pastries

burbos A soft cheese made from ewe's milk

burbot (cusk; eelpout; ling; *Bota lota*; *Lota lacustris*) A codlike, river finfish with light meat and light to moderate flavor

Europe, *L. lota*

Northeastern United States, *L. maculosa*

Russia, nalm

See eelpout

burdock (gabo; *Arctium lappa*; *Xanthium*) A perennial plant with burrs; it has edible shoots (used like salsify) and roots (which may be eaten like carrots or used as a vegetable or in soup or preserved or canned) that are used in the Orient.

burger *See* hamburger

burgoo 1) A flavored vegetable (predominantly tomato stew made with beef and chicken or game). 2) A porridge, gruel, or pudding

burgos A high-fat, soft cheese made from sheep's milk

Burgundies of China tea A good-quality black tea from Northern China

Burgundies of the Gironde *See* St. Emilion

Burgundy wine A red or white table wine with a robust, fruity flavor produced in the valleys of Saône and Yonne in France. A region in east-central France famous for its wine.

Regions:

Côte de Beaune—red and white wines (soft, supple, develop quickly)

Côtes de Nuits—red wines (generous, full-bodied, keep well)

14% alcohol by volume

See Chablis; Chardonnay; Côte de Beaune; Côtes de Nuits; Maconnais; Pineau Noir; sparkling Burgundy

Burgundy cheese (fromage de Bourgogne) A loaf-shaped, soft, white cheese

Burgundy white A dry wine that should be consumed young and fresh; produced in Côte de Beaune and Chablis

Burgundy wine In California, a ruby wine produced from Gamay and Mondeuse grapes

buridda A fish stew

burmeister A soft, brick cheese

burned cream (crème brûlée) A caramelized sugar and custard dessert

burned lime

56 lb burned lime = 100 lb ground limestone

burned oyster shells A liming material composed of 55% CaO and 5% MgO; each pound has the neutralizing equivalent of 0.9–1.1 lb CaCO₃ (or approx. this quantity of dolomitic limestone)

burnet (*Poterium sanguisorba*; *Sanguisorba minor*; other *Sanguisorba* spp.) A cucumber-flavored, perennial herb whose astringent leaves and seeds are used in vinegar, sauces, soups, salads, and beverages (usually cold drinks)

burning Descriptive of the taste of heat caused by pepper, mustard, etc.

burnt A smoky or tarry odor or flavor

buro 1) Dry, salted, fermented, freshwater fish. 2) Dark, salty, fermented mudfish with rice and cooked rice

burong Several types of red or brown, salty, fermented fish or shrimp paste

burong babi Pork fermented with ang-kak (red mold grown on rice)

burong dalag Red or brown, salty, fermented mudfish paste with rice

burong darug Red or brown, salty, fermented fish paste with rice

burong hipon Dark, salty, fermented shrimp with rice

burong-isda Fermented fish

burong mangga (dalok) Pickled, sweet and sour mangoes

burpylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium-seasoned beef, lamb, and pork stuffed into an artificial casing

burr Roughness caused by a raw edge

burrini A 200- to 300-g, pear-shaped, provola-type cheese made from buffalo's or cow's milk

burrito A large, flour tortilla that is filled, folded, and rolled

burro A species of ass that is small in size

bursa Synovial sac of connective tissue between moving parts in joints

burukutu A sorghum beer

busa *See* kumiss

busaa A sorghum, millet, or maize beer

bush apple See Australian native plum

bushel (bu; U.S.; Winchester bushel) A dry measure of volume and capacity

- 1 bu = 2150.42 cubic inches (in.³)
- = 64 pints (pt; U.S., dry)
- = 64 pints (U.S.)
- = 37.2368 U.S. liquid quarts
- = 35.2393 cubic decimeters (dm³)
- = 35.238 liters (l)
- = 32 U.S. dry quarts (d. qt.)
- = 9.30920 U.S. liquid gallons
- = 8 U.S. dry gallons (d. gal)
- = 4 pecks (U.S.)
- = 3.52383 dekaliters (dal)
- = 1.24446 cubic feet (ft³)
- = cubic feet divided by $\frac{4}{5}$
- = 0.35238 hectoliter (hl)
- = 0.04609 cubic yard (yd³)
- = 0.03524 cubic meters (m³)

See Part 2: Canned Yield

bushel, dry (Brit.; Imp.) A dry measure of volume

- 1 bu = 2218.192 cu in. (in.³)
- = 36.368 liters (l)
- = 4 British pecks
- = 1.2843 cubic feet (ft³)
- = 1.032 bu (U.S.)

bushel per acre (bu / acre)

- 1 bu/acre = 0.8708 hectoliter/hectare (hl/ha)
- 1 bu (60 lb)/acre = 67.253 kilograms per hectare (kg/ha)

bust A ruptured hog

butadiene-styrene 75 / 25 (or 50 / 50) rubber

Used as a masticatory substance in chewing gum base

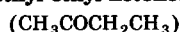
Storage: well-closed container

butane (C₄H₁₀) A gaseous, aliphatic hydrocarbon derived from petroleum and used as a fuel and refrigerant

See Part 2: Refrigerant

butanoic See Part 2: Saturated Fatty Acids

2-butanone (methyl ethyl ketone)



Used as a food-flavoring agent

Storage: tight container

butcher One who slaughters, dresses, cuts, and/or sells meat

butcher cattle Cattle having good flesh

butcher's pepper Coarsely ground black pepper

butcher's round Round of beef without the rump

butcher's wrap A hand-wrapping or packaging procedure in which the object is laid diagonally on paper close to one corner; this corner is placed over the object and the object is rolled to the diagonal corner, bringing the ends of the paper over the object while rolling it

butifarra 1) A moist, cooked, unsmoked Argentinian paste made from finely chopped, medium-seasoned (with salt, white pepper, nutmeg, and grated lemon peel) beef, pork, and veal; it is scalded, not encased, and made with back fat or soft fat. 2) A moist, cooked, unsmoked Uruguayan sausage made from

finely chopped, mildly seasoned beef and pork with flour and stuffed into a beef or pork casing

butt 1) A measure of volume; 1 butt = 2 hogsheads.

2) The larger end, upper portion (e.g., pork shoulder or ham), or farthest from the foot. See **boston butt**.

3) Wine container; 1 butt = 108 gal sherry. 4) Container for dry salted fish; 1 butt = 500 lb of fish. 5) Various flatfishes

butt end sirloin First sirloin taken from the rump end of the wholesale cut loin end

butter 1) Class name for butter, butter oil, and anhydrous butterfat. A food-spread emulsion. Cultured milk (usually cow's) with most of the water (5.9–16% remaining is necessary for spreadable consistency), protein (0.5–1.5% of dry matter), and carbohydrates (trace) removed. Fractionation of cream in which fat is separated from the rest of the milk solids and water; made from both sweet and sour (natural or by addition of a bacterial culture) cream; a colorless semisolid consisting of the glycerides of the fatty acids of cow's milk. It contains a high percentage of butyric acid, from which the word "butter" is derived. It is made by mechanical agitation of milk or cream, which disrupts the protective layer of protein on the fat particles, allowing them to coalesce. After churning, the product is washed and usually salted. Permissible colorants are also added. Whipped butter has increased quantities of air incorporated; it spreads more easily and is less dense. (Add butter first to sandwiches; it adds flavor and helps to keep the filling from soaking in the bread.)

Composition	Regular	Whipped
Moisture (%)	9.5–16	15.9
Protein (%)	0.4–0.85	0.8
Fat (%)	81–88 (min. 80 milk fat)	81.1
Carbohydrate (%)	0.06–0.4	0.06
Fiber (%)	0	0
Ash (%)	0.5–5 (2.5 ash, salted)	2.1
Sodium		
Salted (mg/tbsp)	116 tbsp (14 g);	74 tbsp (9 g)
Unsalted (mg/tbsp)	2 tbsp (14 g)	
Oleic (%)	27	
Linoleic (%)	2	
Cholesterol (mg/tbsp)	35	

Regular butter; energy value 860–870 kcal per 100 g dry matter (3.6 MJ per 100 g dry matter); coefficient of digestibility 97%; curd 0.5–1.5%; pH 6.1–6.4; mp 97°F (36°C)

21–23 lb milk yield 1 lb butter

1 qt cream yields 1 lb butter

2 chubs = 1 lb

1 lb = 48 ($\frac{1}{4}$ -oz) squares

1 lb = 2 cups

= 3 cups (whipped)

1 stick = $\frac{1}{2}$ cup = $\frac{1}{4}$ lb butter

1 stick, whipped = $\frac{1}{2}$ cup

= 2.7 oz

1 cup = 225 g (7.9 oz)

1 cup butter = 1 cup margarine

= $\frac{7}{8}$ cup hydrogenated fat or lard

+ $\frac{1}{2}$ tsp salt

- 1 cup, whipped = 150 g (5.4 oz)
 1 oz = 2 tbsp butter
 1 tbsp = $\frac{1}{8}$ stick
 = 0.5 oz
 = 100 calories
 1 tablespoon, whipped = $\frac{1}{8}$ stick
 = 9 g
 1 pat = 1-in. square, $\frac{1}{8}$ in. thick (90/lb)
 = 35 calories
 = 5 g
 1 pat, whipped = $1.25 \times 1.25 \times 0.33$ in. (120/lb)
 = 3.8–4 g

To remove stain from cloth, scrape off excess, use laundry pretreatment spray or cleaning fluid, rinse in cool water, and wash in hot water.

Storage: refrigerate; use within 2 weeks; wrap tightly and protect from light.

Temperature	Relative humidity	Storage life
32–36°F	80–85	2 months
–10 to –20°F	80–85	1 yr

2) A fruit spread made from strained fruit pulp. Butters are often of a higher concentration and finer consistency than jams and are highly spiced. See **butter, fruit; churning**

See Part 2: Animal Foods, Composition; Butter and Butter Products, Composition; Butter Grade; Calories, Daily Recommendations; Cholesterol Control; Creams, Butter, and Frozen Desserts; Dairy Products, Composition; Fats and Oils, Composition; Flavor Ingredients, Taste and Flavor Type; Food, Composition; Melting Points, Fats and Oils; Microbiological Standards, Dairy; Milk and Milk Products, Vitamin Content; Minerals, Food; Oils and Fats, Composition; Spoilage, Fat in Foods; Storage Times; Unsaturated Fatty Acids; Vitamin A, Daily Recommendations; Vitamin A, Food; Vitamin A, Milk and Milk Products; Vitamin D, Food

butter bean (lima; Madagascar bean; *Phaseolus lunatus*) A tropical bean with a large white seed; harvesting begins about 100 days after planting.

butter, black Cooked butter with or without other additives (e.g., capers, parsley, or vinegar)

butter bun A bun that may contain jam

butter cheese A creamy, semisoft, surface-bacteria-ripened, mildly flavored cheese made from cow's milk, sometimes with irregular holes

butter cream Butter icing; mixture of butter and sugar

buttercup 1) A perennial weed (*Ranunculus acris* L.). 2) A Mediterranean class of chickens that lays a white-shelled egg

buttercup squash A drum-shaped, thick-fleshed winter squash that is green with gray stripes or flecks See **squash, winter**

butter, Danish Cultured butter that is slightly acid

butterfat The natural fat in cow's milk (glycerides of fatty acids); it has the following characteristics:

- Iodine value 26–38
 Melting point 28–35°
 Refractive index (60°C) 1.445–1.449
 Saponification value 221–233

Smoke point 406°F (208°C)
 Specific gravity 0.930–0.940
 Specific gravity 40/15°C 0.911
 Composition (acid):

Acid	%	Acid	%
Arachidic	2	Myristic	11
Butyric	4	Oleic	27
Capric	2	Palmitic	29
Caproic	2	Palmitoleic	5
Lauric	2	Stearic	9
Linoleic	4		

See **milk fat**

See Part 2: Butter and Butter Products, Composition; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Titer, Fats and Oils; Unsaturated Fatty Acids

butterfish (gunnel; *Poronotus triacanthus*) A small (8 in., 8–16 oz), flat-bodied, silver-blue, saltwater food fish of the mackerel family, with white meat, light to moderate flavor, slight oily taste, and soft texture; market name for sablefish

Atlantic (sheepshead), *Peprilus triacanthus*

Australia, *Selenotoca multifasciata*

New Zealand, *Coridodax pullus*

Pacific, *Psenopsis anomala*

butterflied lamb roast Leg of lamb that has been boned so that it can be laid flat for roasting

butterfly A double slice of boneless meat hinged on one side

butterfly chop A thick, boneless pork chop that is folded open to double the original surface area

See Part 2: Pork Cuts; Pork Loin Cooking

butterfly fillet A double fillet

butter, fruit Usually made of large fruits cooked until soft and the pulp passed through a sieve (0– $\frac{1}{2}$ lb sugar/lb fruit); min. 43% soluble solids; less sugar than jam; preservatives are permitted.

Examples: apple; apple and grape; apple and plum; apple and quince; apricot; grape; plum; quince See **butter**

butter grade

USDA grades	Made from
AA	Top-quality sweet cream
A	Lesser-quality sweet cream
B	Sour sweet cream

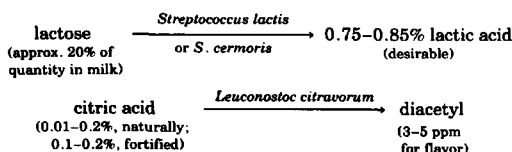
butterhead A variety of head lettuce. See also **Boston lettuce; lettuce**

butterkäse A soft, full-cream, unsalted cheese

butter leaves See **orache**

buttermilk Class name for sweet-cream buttermilk, concentrated sweet-cream buttermilk, and dried sweet-cream buttermilk. A milk beverage expressed from the churning of butter or fermenting skim milk with a starter culture; slightly curdled milk from

which fat has been removed



The liquid that remains after milk or cream (sweet or sour) is churned

Composition	Liquid	Dehydrated
Dry matter (%)		92
Moisture (%)	90–92	2–3
Protein (%)	3.3–3.6	32–35
Milk solids, nonfat (%)	8.25–8.5	
Fat (%)	0.1–0.9	4.7–6
Fat (%) if cultured from whole milk	3.5	
Lactic acid (%)	< 0.5	
Carbohydrate (%)	4.7–5.0	48.5–49.5
Lactose (%)	3.5–4.5	
Fiber (%)	0	0
Ash (%)	0.7–0.9	7.6–9.1
Calories (per cup)	100	
Cholesterol (mg/cup)	5	

1 cup = 245 g (8.5 oz)

1 cup buttermilk

- = 1 cup sour milk
- = 1 cup sweet milk + 1 tbsp lemon juice (let stand for 5 min)
- = 1 cup sweet milk + 1 tbsp vinegar (let stand for 5 min)
- = 1 cup sweet milk + 1 $\frac{3}{4}$ tsp cream of tartar

See also **buttermilk, cultured**

Storage: 40°F; use in 4–6 days

See Part 2: Animal Foods, Composition; Cultured Dairy Products, Composition; Dairy Products, Composition; Dairy Terms; Fluid and Fermented Milks, Composition; Glutamate; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Milk, Concentrated Products; Milk, Dry Products; Minerals, Food; Vitamin A, Milk and Milk Products

buttermilk, acid Made from skim milk or buttermilk by

1. Heating 82–88°C for 30 min
2. Cool to 37°C
3. Inoculate with *Lactobacillus bulgaricus*
4. Acidity, greater than 1% lactic acid

buttermilk cheese A cheese made from the curd of buttermilk

buttermilk, cultured Made by artificially souring pasteurized skimmed or part skimmed milk with a special culture of lactic bacteria. It has the flavor of buttermilk but is thinner.

Procedure:

1. Heat to 82–88°C for 30 min
2. Cool to 21°C
3. Inoculate with *Streptococcus lactis* and *S. lactis* var. *diacetylactis* or *S. cremoris* and *Leuconostoc citrovorum*

4. Final acidity is 0.8–0.9% lactic acid

5. May have 3% sugar

6. May have flavor added

Composition:

Salted—257 mg Na/cup (245 g)

Unsalted—122 mg Na/cup (245 g)

Nonfat milk solids—min. 8.25%

See **buttermilk; lactic acid**

buttermilk, dried A dried by-product of butter making; used in pancakes and bakery products

Composition (sweet cream): moisture 3.0%; protein 34.3%; fat 5.8%; carbohydrate 49.0%; ash 8.0%

See **buttermilk**

butternut (long walnut; white walnut; *Caryocar butyrosomum*; *Juglans cinerea*) 1) A tall (30–75 ft)

North American tree that produces an edible nut; the shell is hard, rough, and ridged and the kernel has a rich, pleasant flavor. The tree bears a crop in 2–3 yr. The nut (white meat, buttery flavor) is eaten fresh and used for baking and confectionery. Nut meat gets rancid quickly after shelling; 85% refuse See **souari nut; walnut**

Composition (kernel): moisture 4%; protein 24%; fat 61%; carbohydrate 8%; ash 3%

2) A creamy orange, bottom-heavy, pear-shaped winter squash

See Part 2: Minerals, Food; Protein Factors

butternut squash A long, cylindrical, creamy to light tan winter squash with a bulbous end See **squash, winter**

butter oil

1 cup = 7.2 oz

butter oil, anhydrous Composition: moisture 0.2%; protein 0.3%; fat 99.5%; carbohydrate 0%; ash 0%

butterpea Bush lima bean

butter, process Low-grade butter from which objectionable odor has been removed and the butter rechurned

butter, renovated Low-grade butter from which objectionable odor has been removed and then butter rechurned

butter, savory A flavored butter (often for seafood)

butterscotch A confection made from butter, brown sugar, lemon juice, and sometimes cream; brown sugar and butter flavoring often found in pies and candy; a hard noncrystalline candy of this flavor

butter sole (*Isopsetta isolepis*) A food fish

butter, sweet Unsalted butter made from either sweet or sour cream See **butter, unsalted**

butter, unsalted (sweet) Butter without salt; some people prefer its flavor; sometimes called sweet butter

butter, whipped Regular butter that is whipped to incorporate 50% air or inert gas, which increases its volume and makes it easier to spread; may be salted or unsalted; min. 80% milkfat. Use $\frac{1}{3}$ – $\frac{1}{2}$ more than regular butter if measurement is by volume.

buttiri A mixture of butter and cheese

button White, cartilagenous area on the ends of the feather bones of young animals

120 buttons

See Part 2: Beef Rib Nomenclature; Beef Wholesale Cuts; Bone; Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

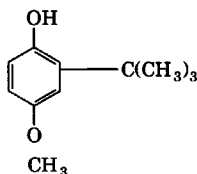
butt tenderloin Iliopsoas (iliacus and psoas major) muscle; lies ventral to the shaft of the ilium in cross section of sirloin; is the psoas major and psoas minor in pin bone area and lies ventral to the lateral process of lumbar vertebra

butyl acetate ($\text{CH}_3\text{COOCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$) Used as a fruity flavoring agent in food
Storage: tight container in a cool place

butyl alcohol [$\text{CH}_3(\text{CH}_2)_2\text{CH}_2\text{OH}$] Used as a vinous flavoring agent in food
Storage: tight container in a cool place

butylate See Part 2: Corn Herbicides

butylated hydroxyanisole (BHA) Predominately 3-*tert*-4-hydroxyanisole (3-BHA) with varying amounts of 2-*tert*-4-hydroxyanisole (2-BHA)

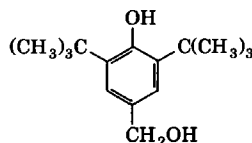


An antioxidant that needs a synergist to be very effective; it will carry through to the baked product; 0.01% in fat (total antioxidant, 0.02% in combination); 0.003% in smoked dry sausage

Storage: well-closed container

See Part 2: Antioxidant Activity; Antioxidant Mixtures; Antioxidants, Formulas; Antioxidant Structure

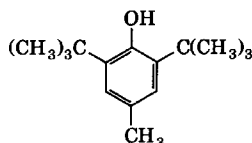
butylated hydroxymethylphenol



Used as an antioxidant in food

Storage: tight container

butylated hydroxytoluene (BHT)



An antioxidant; 0.01% in fat (total antioxidant, 0.02% in combination). Prohibited in England

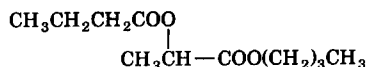
Storage: well-closed container

See Part 2: Antioxidant Activity; Antioxidant Mixtures; Antioxidants, Formulas; Antioxidant Structure

butyl butyrate [$\text{CH}_3\text{CH}_2\text{CH}_2\text{COO}(\text{CH}_2)_3\text{CH}_3$] Used as a pineapple-like flavoring agent

Storage: full, tight, glass container in a cool, dark place

butyl butyryllactate



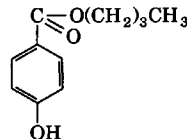
Used as a butterlike flavoring agent

Storage: full, tight, glass container in a cool, dark place

1,3-butylene glycol ($\text{CH}_2\text{OHCH}_2\text{CHOHCH}_3$) Solvent for flavoring agents

Storage: tight container

butylparaben



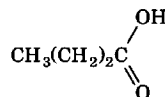
An antimicrobial food additive used in beverages, cake-type pastries, relishes, and salad dressings

butyl rubber See **isobutylene-isoprene copolymer**

butyraldehyde [$\text{CH}_3(\text{CH}_2)_2\text{CHO}$] Used as a flavoring agent in food

Storage: tight container

butyric acid



An aliphatic fatty acid occurring in milk fat; used as a rancid-butter-like flavoring agent

Storage: tight container.

See Part 2: Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Saturated Fatty Acids

buyer code A code used to identify the buyer responsible for a given item and/or purchase order

buying direct Purchasing directly from the manufacturer's plant

buzbag A red wine

BVD Bovine Viral Diarrhea

BVO See **brominated vegetable oil**

bwiru Poi made from breadfruit (*Artocarpus*) that is soaked in seawater and then fermented

by-product Secondary products, both edible and inedible, e.g., hide, bone, fat, blood, and viscera. Sausage labeled with by-product consists of less than 15% of one or more kinds of raw skeletal muscle meat.

See Part 2: Packinghouse By-Products Composition

byrrh An orange- and quinine-flavored, red, aperitif wine

Byssochlamys fulva A heat-resistant (30 min at 85°C) mold that causes spoilage and swells in canned fruit

See Part 2: Rot Spoilage; Spoilage, Carbohydrate Foods

byte A byte is to a bit as a word is to a letter. Usually, one byte is from 8 to 32 bits long.

C

C Symbol for the element carbon. Also the symbol used for a capacitor

© On a label, indicates that the label is copyrighted with the copyright office of the Library of Congress

Ca Symbol for the element calcium

ca. Circa; about

cabanos (kabanos) Pork pepperoni seasoned with caraway, coriander, garlic, and paprika

cabanossi 1) A semidry, cooked, smoked Australian sausage made from coarsely chopped, heavily seasoned (with garlic) beef, pork, and veal stuffed into artificial casings. 2) A dry, cooked, smoked medium-chopped, heavily seasoned (with nitrite) beef and pork stuffed into pork casings with a diameter of less than 30 mm

cabanossy A dry, uncooked, Australian sausage

cabate (*Volvariella volvacea*) Straw mushroom

Cabbage (*Brassica oleracea capitata*) A sulfur-containing vegetable whose leaf is used as food; a plant whose enlarged terminal bud (2–5 lb) is used as a green vegetable, salad greens, fresh (in cole slaw), boiled, or fermented (sauerkraut); originally from the Mediterranean and Middle East; matures in 100 days; outer leaves are called wrapper

Type	Seed/oz	Germination period (days)
Green	7000	12
Red	8400	12
Savoy	7000	12

Seed 4–8 oz/acre (150–300-ft bed space); spacing 12 in. apart in rows 3 ft apart

Types:

Crinkly or savoy—has a round shape, yellowish wrinkled leaves, mild flavor; makes good cole slaw. Loose-headed cabbage (winter type, *B. oleracea bullata major*)

Early—flat (Cornell Early Savoy)

Late—flat (Perfection Drumhead Savoy)

Danish—tight, white, compact heads

Drumhead (white Dutch cabbage)—large, white, and hard

New—sold fresh

Old—sold from storage

Purple or red—has strong flavor, tight head, deep purple hue (anthocyanin pigments); used for pickling and in salads

Smooth

Round (Danish Round Red, Mammoth Red Rock, Red Acre, Red Head, Ruby Ball)

Smooth

Early, or new, varieties—conical or pointed (Jersey Wakefield, Yellow Resistant); flat (Early Flat Dutch, Improved Allhead); round (Copenhagen, Golden Acre); spring cabbage (young cabbage at any time of year)

Late—conical or pointed (Charleston Wakefield); flat (Late Flat Dutch, Wisconsin Hollander); round (Danish Ballhead)

To cook: Green cabbage can be shredded and cooked for 4–8 min, quartered and cooked for 6–10 min, or wilted with bacon. Red cabbage has tougher leaves; using pickling acid gives a lighter shade and boiling, a purple color. (Cook with apple, onion, wine, lemon juice, or vinegar to retain red color.)

Refuse: 15–25%, outer leaves and core

100 lb fresh cabbage = 8–10 lb dry cabbage

Western crate (13 × 18 × 21.6 in.) = 80 lb

Wire-bound crate = 50 lb

1 med. head = 2.5 lb

= 16 one-in. slices

= 9 cups, shredded, raw

= 7 cups, cooked

1 small head = 5–6 cups, shredded

1 lb, fresh = 0.5 small head

= 3½–4½ cups, shredded

= 5–7 raw servings

= 2 cups, cooked

= 4 cooked servings

1 lb, raw, shredded = 9–12 servings

1 lb, red, fresh = 3–4 servings

1 lb, cooked = 4–5 servings

1 cup, shredded = 80 g (2.8 oz)

1 cup, cooked = 145 g (5.2 oz)

1 serving = ¼ lb

Composition	Cooked	Dried	Raw
Moisture (%)		4	92
Protein (%)		14	1
Fat (%)		2	0.2
Carbohydrate (%)		72	5
Fiber (%)	2.2		2.8
Ash (%)		7	0.7
pH			5.2–5.4

Storage: Leave stem on head, remove injured leaves; keep cool (32°F); place in moderately moist place, e.g., pits or cold cellars, crisper, or plastic bag (90–95% relative humidity); freezing point 31°F; use within 1 week–2 months

122 Cabbage (*Brassica oleracea capitata*)

Variety	Fusarium resistant	Hybrid	Season	Head
Chieftain Savoy		Standard		
Chinese Michihili			Early; 55–70 days after transplant	Solid, long, tapered
Copenhagen Market		Standard	Early to midseason; 68 days after transplant	Round; 6 in.; 4–10 lb
Danish	Yes	Standard	Late; 110–120 days after transplant	
Danish Ballhead		Standard	Late; 110–120 days after transplant	
Dwarf Modern			55 days after transplant	4 in.
Earliana			60 days after transplant	5 in.; 2 lb
Early Jersey Wakefield			Early; 63 days after transplant	Solid, sweet, tender, pointed head; 7 in.; 5 lb
Early Marvel		Standard	Early; 65 days after transplant	Round, solid, dark green; 5 in.; 3.5 lb
Early Round Dutch		Standard		Slow-bolting
Emerald Cross		Hybrid	Early; 63 days after transplant	Round, compact; 6 in.; 5 lb
Excel	Yes	Hybrid		
Flat Dutch			Late; 90 days after transplant	Flat, solid
Globe	Yes		Midseason	Round
Golden Acre	Yes	Standard	Early; 56–70 days after transplant	Firm, round; 6.5 in.
Golden Acre (resistant)	Yes	Standard	64 days from seed; early	Small; 6 in.; 4 lb
Gourmet	Yes	Hybrid	70 days from transplant	Round, blue-green; 5 in.; 4 lb
Greenback	Yes	Standard	Mid.-late	
Harvester Queen		Hybrid	55–70 days from transplant; early	Solid; 5 lb
Jumbo			78 days from transplant; early	8 in., 15 lbs., hard, cabbage rolls, kraut
King Cole	Yes	Hybrid	Mid.; 68 days from transplant	Round, blue-green, white interior; 7 in.; 5 lb
Market Prize	Yes	Hybrid		
Marion Market	Yes		Midseason	Round
Park's Earliana			Early	2 lb
Red Acre		Standard	Mid.; 76 days from transplant	Red, round, med. size; 4 lb
Red Head		Hybrid	Mid.; 85 days from transplant	Globe, red; 7 in.; 3 lb
Ruby Ball		Hybrid	Early; 68 days from transplant	Firm, round; cooked or raw; 6–7 in.; deep purple; pickling
Savoy Ace		Hybrid	Late; 75–85 days from transplant	Round, firm; 7 in.; 4 lb; crumpled, dark green
Savoy King		Hybrid	Late; 86–90 days from transplant	Semiflat; 4 lb; slaw, salads; dark green
Stonehead	Yes	Hybrid	Early; 67 days	Solid, round; 6 in.; 4 lb; small
Wakefield	Yes	Standard	Early-mid.	
Wisconsin All Season (kraut)	Yes		Mid.-late	Round; 12 lb; kraut cabbage
Wisconsin Hollander	Yes		Late	

Trench storage: Place roots in bottom of trench, cover with straw to prevent freezing, cover with boards to shed water.

See Chinese cabbage; pickle; sauerkraut

See Part 2: Ascorbic Acid; Cabbage Looper; Calcium, Daily Recommendations; Calories, Daily Recommendations; Food, Composition; Fruit and Vegetables, Diseases; Microwave Processing Time; Minerals, Food; Minerals, Plant or Animal Tissue; Nicotinic Acid, Food; Nitrate, Vegetables; Nutrients in Crops; Pentosans; Phosphorus; Plant Foods, Composition; Planting Density; Portion Size; Rot Spoilage; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetables, Classification; Vegetable Servings; Vegetables, Panned; Vegetable Storage; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin A, Food; Vitamin C

cabbage aphid (*Brevicoryne brassicae*) A grayish green aphid with a powdery, waxy covering over its winged (or wingless) body. It feeds on broccoli, cabbage, cauliflower, cole crops, collards and kale. In the South, 30 or more generations of females, both winged and wingless, are produced throughout the year.

cabbage, Chinese

1 large head = 2 lb

See Part 2: Planting Density; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

cabbage, dried *See* Chungking cabbage

cabbage group (cole) Includes broccoli, Brussels sprouts, cabbage, Chinese cabbage, cauliflower, and kohlrabi

cabbage looper (*Trichoplusia ni*) The moths are $\frac{3}{4}$ in. long and gray-brown with a silvery spot on the middle of the forewing. Larvae have black heads and develop into green caterpillars about 1 in. long that move in "inchworm" fashion and feed on lettuce foliage.

See Part 2: Cabbage Looper

Cabbage maggot The larvae of smallflies that chew the stems and bore into the roots of plants

cabbage, nonheading *See* collards

cabbage palm Any palm whose terminal bud or shoot is used as food, in salads or cooked like a vegetable; a tree whose leaves are used in salads or as greens and the pith of the stem may be boiled or pickled

cabbage, red *See* cabbage

See Part 2: Vegetable Composition, Part I

cabbage root fly Plant cabbage in a hole in tarred felt for control

cabbage, salted *See* Chungking cabbage

cabbage sprout Green cabbage stalks that grow after the cabbage head has been removed

cabbage turnip *See* kohlrabi

cabbage white fly A prolific, small white fly that attacks all members of the brassica family

cabbage, white mustard *See* Part 2: Vegetable Composition, Part I

cabbageworm (caterpillar and white butterfly)

A cabbage pest; there are both large and small species.

See Part 2: Insect Control

cabecou A small, disk-shaped, sometimes strong-flavored, valençay-type cheese made from goat's, sheep's, or mixed milk; sometimes pressed to give a firm texture

Cabernet 1) A variety of bluish black grapes that is fermented to yield the red wines of Bordeaux (clarets); also grapes grown in Italy and used to make a red wine. 2) A medium-bodied Italian red table wine whose flavor is between claret and burgundy

Cabernet Sauvignon A flavorful, aged wine

cabillaud *See* codfish

cabinet A designation that used to mean "finest wine" but now has little significance

caboc A cylindrical cream cheese made from cow's milk and covered with toasted oatmeal

cabob *See* kebab

cabrales A blue or blue-veined cheese made from goat's milk or goat's with sheep's or cow's milk

cabraliego A blue cheese made from goat's milk or goat's with sheep's or cow's milk and matured in caves

cabreiro A mild to sharp, soft, white cheese made from mixed ewe's and goat's milk; often cured in brine

cabrilla (family *Serranidae*) Name used for a number of sea perches *See* grouper

cabrion A cheese made from goat's or cow's milk and flavored with grapes

cabrion du forez A valençay-type cheese made from goat's milk or cow's and goat's milk

cacao Raw chocolate beans *See* chocolate; cocoa
See Part 2: Fatty Acids, Fats and Oils; Iodine and Saponification Values; Melting Points, Fats and Oils; Refractive Indices, Fats and Oils; Titer, Fats and Oils; Unsaponifiable Matter

cacao mit nüss A brown-white liqueur flavored with chocolate, hazelnuts, and almonds

cacciatore Meat or poultry cooked with onion, garlic, herbs, wine, and tomatoes

cacciatore, alla Cooked in hunter style

cacciatori 1) Salami made from medium-chopped beef and pork; a dry, uncooked, unsmoked Italian sausage medium-chopped, medium-seasoned beef and pork that is fermented and stuffed into a beef casing. 2) A dry, uncooked Australian sausage

caccio cavallo cheese A dry, hard, sharp Italian cheese

caccio romano *See* chiavari

cacetti A provola-type cheese, made from buffalo's or cow's milk, that is pear-shaped (200–300 g), dipped in wax, and matured 10 days

cachaca A crude, light rum

cachar An Indian black tea

cachat A soft, white cheese, made from ewe's or goat's milk, that is sometimes cured

cachexia Ill health and lack of nutrition

caciatore An Italian, dry sausage (meat-protein ratio should not exceed 1.9:1)

caciocavallo A firm, gourd-shaped provolone-type cheese made from whole or skimmed cow's and sometimes goat's milk

caciocavallo cheese A cheese with a salty, sometimes smoky (but usually not smoked), robust flavor similar to provolone; a dinner or grating cheese in ten-pin shape and bound by cord; tan surface, light interior; made from goat's or cow's milk; ripening time 3 months min.; 12 months or more for grating
See Part 2: Cheese Characteristics; Milk and Cheese Composition

cacio fiore A creamy, yellow (saffron), Italian rennet cheese, made from sheep's or goat's milk; it is sweet, semisoft, surface-bacteria-ripened, and may be flavored with liqueur

caciotta (caciotto) A creamy, semisoft, surface-bacteria-ripened cheese made from cow's, sheep's, or goat's milk, usually flavored with liqueur

CACM Central American Common Market

cactus Several types are used for food:

1. Barbados gooseberry (*Persia esculenta*)—fruit eaten
2. Nopal—leaves eaten fresh or canned
3. Prickly pear; tuna (*Opuntia tuna Ofinesque*)—fruit eaten raw or stewed

cactus leaves (nopales) A succulent vegetable, similar to green beans but with slightly harder texture and flavor

cade A small barrel used to measure fish

cadiz A semisoft, mildly acidic, smooth cheese made from goat's milk and pressed into plaited baskets

cadmium (Cd) A metallic element; at. no. 48; at. wt. 112.41; Group IIB of the Periodic Table; oxidation state +2; electron configuration 2-8-18-18-2
orbit K L M N O

Cadmium and its compounds are poisonous. Acid fruit may dissolve the metal from cadmium plated utensils.

Body function: interferes with the function of iron, copper, and calcium

See Part 2: Water Drinking Standards

caecum See **cecum**

caerphilly A mild (matured 2-5 months), semisoft to hard, flat, circular, white, crumbly, salty, fresh cow's milk, English cheese that is soaked in brine

caerphilly cheese A creamy white, moist cheese from Wales with a mild, delicate flavor

Caesar salad A salad made of the following ingredients:

1. Bacon
2. Bread cubes browned in butter and garlic
3. Lettuce (romaine)
4. Mustard cream sauce
5. Olive oil
6. Parmesan (grated) cheese
7. Parsley

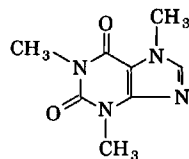
A raw egg is broken over these before final mixing.

café Coffee

café au lait Equal parts of hot coffee and scalded milk (French)

café noir Black coffee (French)

caffeine A plant alkaloid that acts as a stimulant; it occurs in coffee, cola, tea, etc. It increases pulse rate, accelerates heart action, and sometimes causes high blood pressure.



Used as a flavoring agent (bitter taste) and stimulant in cola and root beer (0.02%)

	Caffeine content	
	Millograms per fluid ounce	In plant (%)
Chocolate milk	0.6-1.4	
Cocoa	0.3-0.8	
Coffee	16-18	1
Cola beverage	4-6	1.5
Decaffeinated coffee		
Brewed	0.6	
Instant	0.4	
Instant coffee	11	
Tea	13	2

Caffeine in chocolate:

Chocolate-flavored syrup 4 mg/oz

Dark chocolate, semisweet 20 mg/oz

Milk chocolate 6 mg/oz

The mp is 235-237°C

Storage: hydrous form (one molecule of water)—tight container; anhydrous form—well-closed container

caidan Colorful eggs

caillebotte A soft, white cheese made from cow's milk

caimito (*Chrysophyllum cainito*) Star apple, from the word *cayomito*; a tropical 500-1000-g berry; a West Indies small tree grown for its apple-shaped, greenish purple edible fruit

See Part 2: Fruit Classification; Fruit Storage

cajni Teekvass

Cajun bean (congo; pigeon pea; *Cajanus indicus*) Tropical shrub that produces pods that may be consumed green or used as ripe seed

Cajun seasoning A spice blend: black pepper, red pepper, and white pepper

cake 1) A mixture of flour, milk, egg, sugar or shortening, and flavoring, with or without fat and a leavening agent, packed into a mass and baked; one

three-layer cake (10-in. diam.) = 50 servings

Type	Special ingredients	Shortening	Leavening
Angel food	Egg whites	None	None
Butter	Milk or other liquid	Used	Baking powder
Chiffon		Liquid vegetable oil	Baking powder
Fruit	Fruit	Used	Baking powder
Sponge	Whole eggs	None	None

Cake classifications:

Butter cakes, which contain fat ingredients (butter or fat used)—flour, egg, fat, leavening, liquid, and sugar
 Chocolate cake
 Cupcake
 Devil's food
 Fruit cake
 Pound cake
 White cake

Sponge cakes, which contain no fat ingredients (i.e., without fat)—egg, a little acid, flour, and sugar
 Chocolate feather
 White sponge or angel food, containing egg whites
 Yellow sponge, containing whole eggs

Storage: container with tight cover; cake with cream or custard fillings or frostings must be refrigerated.

Storage (frozen): (0°F) storage life 4–6 months

See Part 2: Baked Products, Frozen Storage Life; Calories, Daily Recommendations; Frozen Food Storage; Grain Products, Composition; Portion Size; Stabilizers, Thickeners; Thiamin, Food

2) Mass resulting from pressing of seed, meat, or fish.
 3) Fish cake is raw flaked fish shaped into patties.

cake flour See **soft-wheat flour**

cake icing See Part 2: Grain Products, Composition; Sugars and Sweets, Composition

cake lardy A fatty tea bread with fruit and spices

cake mix A commercially prepared mixture containing most cake ingredients; only water and sometimes eggs need be added. See also **cake**

Storage: room temperature away from heat, e.g., from the range or refrigerator

cake, plain Composition:

Without icing

3 × 3 × 2-in. slice = 315 calories

2 $\frac{3}{4}$ -in.-diam. cupcake = 115 calories

With chocolate icing

1 $\frac{3}{4}$ -in. sector of 9-in. round layer cake = 240 calories

2 $\frac{3}{4}$ -in.-diam. cupcake = 170 calories

cala Cured and smoked picnic (lower portion of pork shoulder)

calabash See **bottle gourd**

calabrese (green or purple sprouting broccoli; *Brassica oleracea* var. *italica*) See **broccoli**

calabrese salami A coarsely chopped pork chorizo.
 1) A dry, uncooked Australian sausage. 2) A dry,

uncooked, unsmoked Italian-salami-style American sausage made from coarsely chopped, heavily seasoned (with hot peppers) pork that is fermented and stuffed into a pork casing; the product is air-dried for 60–100 days. 3) A southern Italian dry salami (meat-protein ration of 1.9:1 or less) pork seasoned with hot peppers and produced in the Calabria region

calaloo See **spinach**

calalu (**malanga**; **yauta**) A tropical plant whose pods are used like okra

calamansi A small, round, acid fruit often used to flavor a beverage

calamari Cuttlefish; squid

calamaro See **squid**

calamary (*Loligo vulgaris*) An edible squid; an edible 10-tentacled cephalopod

calamint (*Calamintha officinalis*) A perennial herb with an odor similar to peppermint

calamondin (*Citrus Blancoi*; *C. mitis*) A small tree that produces a small, loose-skinned, acid orange that is used in drinks and marmalade
 See Part 2: Fruit Storage

calamus (**sweet flag**; **myrtle flag**; **sweet cane**) A pungent and bitter herb; the root is chewed; also used to make tea

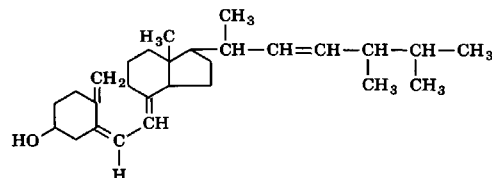
calappa (**box crab**) A crablike crustacean

calas A deep-fat-fried rice fritter sprinkled with sugar

calavo (**California avocado**) See **avocado**

calcareous A soil that is high in calcium carbonate (CaCO₃) or its derivative, lime (CaO)

calciferol (C₂₈H₄₃OH) Vitamin D₂, which can be produced by ultraviolet irradiation of ergosterol; used as a nutritional supplement



calcification Organic tissue becomes hardened by a deposit of calcium salts

calcifuge Intolerant to lime

calcite Purified calcium carbonate (CaCO₃); limestone

calcium (Ca) An alkaline-earth element; at. no. 20; at. wt. 40.08; Group IIA of the Periodic Table; oxidation state +2; electron configuration 2–8–8–2
 orbit K L M N

Daily requirements 0.8–2 g; 800 mg/day for adults and children (2.75 cups milk per day); 1200 mg/day for adolescents and pregnant or lactating females (4.25 cups milk per day)

126 calcium (Ca)

Body functions: bone and tooth formation, contraction of muscles, clotting of blood, irritability of nerves
Deficiency is known as osteomalacia; calcium is needed for bone and tooth formation (90%) in animals. In plants it is used to bind cells and deficiency will cause inhibition of bud development, death of the tap root, and anemic foliage; deficiency occurs most commonly in acid soil.

Occurrence in foods:

High

Egg yolk
Milk & milk products
Vegetables

Low

Lean meat
Seed

Calcium levels:

2 oz Swiss cheese = 544 mg
2 oz blue cheese = 340 mg
1 cup cottage cheese = 154 mg
1 cup plain lowfat yogurt = 415 mg
1 cup whole milk = 291 mg
Calcium equivalent to 1 cup milk
= 2 1-in. cuts of cheddar cheese
= 1½ cups cottage cheese
= 2 cups ice cream

See Part 2: Beans, Peas, and Nuts; Calcium; Calcium, Daily Requirements; Calcium Equivalents for Milk; Cereal Fortification; Cereal, Nutrient Content; Cereals, Vitamin and Mineral Content; Cheese Composition; Composition of Food; Concentrated and Dried Milk Products; Creams, Butter, and Frozen Desserts; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish, Composition; Fluid and Fermented Milks, Composition; Food, Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Lemon Juice Composition; Lime Juice Composition; Macaroni and Noodles, Composition; Manure Analysis; Maple Syrup Composition; Meat Composition; Meat, Nutritive Value; Milk Composition; Minerals, Food; Minerals, Plant or Animal Tissue; Normal Solutions; Nutrients in Crops; Olives and Pickles, Composition; pH and Availability of Plant Nutrients; Plant Foods, Composition; Poultry Composition; Recommended Daily Dietary Allowance; Sausage Composition; Soups, Composition; Sugars and Sweets, Composition; Sweet Potato, Nutritive Value; Tomato and Tomato Products, Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Water Drinking Standards; Wheat, Minerals

calcium acetate $[(\text{CH}_3\text{COO})_2\text{Ca} \cdot \text{H}_2\text{O}]$ Used as a source of acetic acid and as a sequestrant and mold-control agent in baked goods

Storage: well-closed container

calcium acid phosphate (acid calcium phosphate) $[\text{Ca}(\text{H}_2\text{PO}_4)_2]$ Used in baking powder and self-rising flour; same as superphosphate

calcium alginate (algin) $[(\text{C}_6\text{H}_7\text{O}_6)_2\text{Ca}]_n$ Used as a stabilizer, thickener, texture modifier, and emulsifier; eq. wt. 195.2

Storage: well-closed container

calcium arsenate $[\text{Ca}_3(\text{AsO}_4)_2]$ A poisonous insecticide

calcium ascorbate $(\text{C}_{12}\text{H}_{14}\text{CaO}_{12} \cdot 2\text{H}_2\text{O})$ Used as a food antioxidant

Storage: tight container in a cool, dry place

calcium bromate Used as a maturing and bleaching agent and dough conditioner

calcium caprate A general-purpose food emulsifier

calcium caprylate A general-purpose food emulsifier

calcium carbonate (CaCO_3) Used in foods as an alkali, a nutrient supplement, a dough conditioner, a firming agent, an agent to prevent sticking and to promote creaming, a yeast food, a white food dye, and a neutralizer. It is also used in baking powder and in animal feed. The calcium salt of carbonic acid (H_2CO_3) . Rocks of the sedimentary class are chiefly composed of CaCO_3 ; it is thus one of the most abundant inorganic materials on earth. It is the primary source of lime.

Composition: dry matter 100%; Ca 39.4%; Mg 0.05%; P 0.04%; K 0.06%; Na 0.06%; Fe 0.03%; Mn 0.03%

Storage: well-closed container

See Part 2: Fertilizer Materials; Liming Materials; Normal Solutions

calcium carbonate equivalent A value used in calculating soil sweetening efficiency: equals $\% \text{CaCO}_3 + 1.19(\% \text{MgCO}_3)$

calcium caseinate A complex molecule that may be considered the calcium salt of the protein casein, present in cow's milk in about 3% concentration. Used in cheese making

calcium chloride $(\text{CaCl}_2 \cdot 2\text{H}_2\text{O})$ Approved as a sequestrant, a firming agent, an aid to coagulation, and a general-purpose food additive; used in evaporated milk up to 0.1% by weight. Calcium chloride added to firewood produces an orange flame.

Storage: tight container

See Part 2: Boiling Points, Sodium Chloride, Calcium Chloride; Normal Solutions

calcium citrate $[\text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 4\text{H}_2\text{O}]$ Found in citrus fruit; used to neutralize acid and as a food sequestrant, buffer, and firming agent

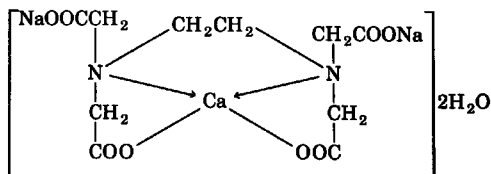
Storage: well-closed container

calcium cyanamide (CaCN_2) A nitrogenous compound used as a fertilizer ingredient

See Part 2: Fertilizer Materials

calcium cyclamate See cyclamate

calcium disodium ethylenediaminetetraacetate (EDTA)



Used as a food preservative and/or sequestrant

Storage: well-closed container

calcium gluconate $[(\text{CH}_2\text{OH}(\text{CHOH})_4 \cdot \text{COO})_2\text{Ca}]$
Used as a food sequestrant, buffer, firming agent, and sequestrant and as a general-purpose food additive

calcium glycerophosphate $(\text{C}_3\text{H}_7\text{CaO}_6\text{P})$ Used as a nutrient and a dietary supplement
Storage: tight container

calcium hydrate See **calcium hydroxide**

calcium hydroxide (slaked lime) $[\text{Ca}(\text{OH})_2]$ Hydrated lime, made by adding water to calcium oxide. Used in foods as a buffer, neutralizing agent, firming agent, and general-purpose additive; also used as a fertilizer ingredient

Storage: tight container

See Part 2: Liming Materials; Normal Solution; Reagents, Normal Solution

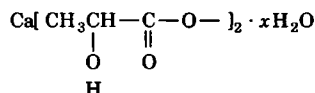
calcium hypochlorite $[\text{Ca}(\text{OCl})_2]$ An inorganic chemical used for chlorination of water, bleaching, and as a disinfectant; chloride of lime, chlorinated lime, and HTH have a high content of this compound.

See Part 2: Chlorine Availability; Chlorine Compounds; Sanitizers

calcium iodate $[\text{Ca}(\text{IO}_3)_2 \cdot \text{H}_2\text{O}]$ Used as a maturing agent or dough conditioner

Storage: well-closed container

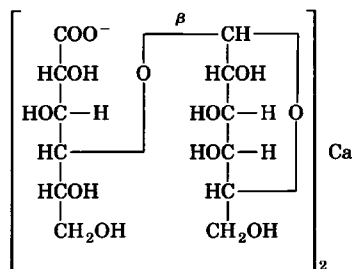
calcium lactate



An antimicrobial food additive used in beverages, cheese, frozen desserts, and olives; also used as a food additive to control pH and as a buffer, a preservative, a dough conditioner, and as yeast food

Storage: tight container

calcium lactobionate



Used in food as a firming agent and as a food stabilizer in dry pudding mixes

Storage: well-closed container

calcium laurate A general-purpose food emulsifier

calcium metaphosphate $[\text{Ca}(\text{PO}_3)_2]$ A fertilizer material: 0-63-0

calcium nitrate $[\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}]$ A fertilizer ingredient

See Part 2: Fertilizer Materials

calcium oleate $[\text{Ca}(\text{C}_{18}\text{H}_{33}\text{O}_2)_2]$ A general-purpose food emulsifier

calcium oxide (CaO) Synonymous with lime, quicklime, burnt lime, calx, unslaked lime, fluxing lime. Obtained by heating limestone (calcium carbonate) or oyster shells in a furnace. Used in food as an alkali, a nutrient, a dietary supplement, a dough conditioner, and as yeast food; also used as a fertilizer ingredient and in poultry feeds.

Storage: tight container

See Part 2: Liming Materials; Normal Solutions

calcium palmitate $[\text{Ca}(\text{C}_{16}\text{H}_{31}\text{O}_2)_2]$ A general-purpose food emulsifier

calcium pantothenate (vitamin B₅)



A B-complex vitamin that is widespread in plant and animal tissue; used in food as a nutrient or dietary supplement

Storage: tight container

calcium pantothenate-calcium chloride complex $(\text{C}_{18}\text{H}_{32}\text{CaN}_2\text{O}_{10} \cdot \text{CaCl}_2)$ Used in food as a nutrient and dietary supplement

Storage: tight container

calcium pectinate A complex salt of the polysaccharide pectin, derived from citrus or apple sources; can be used as an edible gel coating for meat products.

See also **pectin**

calcium peroxide (calcium dioxide, calcium superoxide) (CaO_2) A white, tasteless powder used in food as a dough conditioner or as an oxidizing agent for bakery goods

Storage: tight container; observe precautions on original container

See **peroxide**

calcium phosphate A hydrated compound existing in several modifications

1. Calcium phosphate, dibasic; dicalcium phosphate; $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$; used in animal feeds, as a fertilizer ingredient, dough conditioner, nutrient supplement, and yeast food

Composition (dibasic): dry matter 97%; Ca 21.3%; Mg 0.6%; P 18.7%; K 0.7%; Na 0.05%; S 1.1%; F 0.18%; Fe 1.4%

Storage: well-closed container

2. Calcium phosphate, monobasic, monocalcium phosphate; calcium biphosphate; acid calcium phosphate; $\text{CaH}_4(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$; used as an ingredient of baking powders, in fertilizers, and as a buffer, dough conditioner, firming agent, nutrient, dietary supplement, yeast food, and sequestrant

Composition (monobasic): dry matter 97%; Ca 15.9%; Mg 0.6%; P 21%; K 0.08%; Na 0.06%; S 1.2%; F 0.2%; Fe 1.5%

Storage: well-closed container

3. Calcium phosphate, tribasic; tricalcium phosphate; precipitated calcium phosphate; $\text{Ca}_3(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$; used as an anticaking agent, a buffer, a nutrient, a dietary supplement, a fertilizer ingredient, and a tenderizer

Storage: well-closed container

calcium propionate $[\text{Ca}(\text{CH}_3\text{CH}_2\text{COO})_2]$ A food preservative; a mold, microorganism, and rope inhibitor; a calcium supplement

128 calcium propionate

Storage: tight container

See **propionic acid**

calcium pyrophosphate ($\text{Ca}_2\text{P}_2\text{O}_7$) Used in food as a buffer, neutralizing agent, nutrient, and dietary supplement

Storage: well-closed container

calcium saccharin ($\text{C}_{14}\text{H}_{13}\text{CaN}_2\text{O}_6\text{S}_2 \cdot 3.5 \text{H}_2\text{O}$) A non-nutritive sweetener that is 500 times as sweet as sucrose

Storage: well-closed container

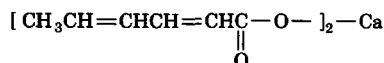
calcium silicate A mixture of Ca_2SiO_4 , $\text{Ca}_3\text{Si}_2\text{O}_7$, $\text{Ca}_3(\text{Si}_3\text{O}_9)$, and $\text{Ca}_4(\text{H}_2\text{Si}_4\text{O}_{13})$. Varying proportions of CaO and SiO_2 are found; used as an anticaking compound in baking powder and table salts

Composition (average): CaO 19%; SiO_2 67%; moisture 7%

Storage: well-closed container

calcium silicate slag A liming material that is equal to 0.8 lb of dolomitic limestone per each pound used

calcium sorbate



An antimicrobial food additive used in beverages, cakes, cheeses, fruit products, margarine, mayonnaise, processed meat, and syrups

calcium stearate Calcium with variable proportions of stearic and palmitic acid; used in food as an anticaking agent, binder, or emulsifier.

Storage: well-closed container

calcium stearoyl-2-lactylate Primarily calcium salt of stearoyl lactic acid; used in food as a dough conditioner, stabilizer, and whipping agent

Storage: tight container in a cool, dry place

calcium sulphate (gypsum) ($\text{CaSO}_4 \cdot x\text{H}_2\text{O}$) Used in food as a nutrient, dietary supplement, dough conditioner, firming agent, jelling ingredient, sequestrant, and yeast food; also used in animal feed

Storage: well-closed container

calcium sulphate, anhydrite (CaSO_4) Used in cement, paper, laboratory desiccant, and building materials; also used to neutralize alkali carbonates in soil

Composition (anhydrous): dry matter 85%; Ca 22%; Mg 2.2%; S 20%; Fe 0.2%

calculi Concretions (usually inorganic except gallstones) formed in the body, e.g., kidney stones

calf A young animal of a bovine species (e.g., cattle), of either sex, usually under 12 months old. Dressing percentage 55.5%. The animal has subsisted in part on food other than milk and the meat is known as veal.

See Part 2: Cattle; Cholesterol Control

calf carcass The body of a bovine animal 3–8 months old at slaughter

calf foot Cooked for several hours for the jelly content

calf grade

Prime

Choice

Good

Standard

Utility

calf knees Knees bent too far to the rear

calf liver Liver from young beef; milder in flavor than that of mature beef

calf liverwurst A moist, cooked, unsmoked Australian sausage made from finely chopped, medium-seasoned veal stuffed into artificial casings

calf's foot jelly Jelly made by simmering calf's foot in water. It may be flavored.

calf's head Calf's head is boiled, meat removed and chopped, and the chopped meat and whole tongue are placed in a mold and the cooking liquid is allowed to jell around it

Calgon Proprietary name for sodium hexametaphosphate. Used for water softening and corrosion and scale prevention. See also **hexametaphosphate**

cali (picnic) Cured and smoked pork foreleg See picnic

calibration Etched line on glassware to indicate volume

calices (Plural of calix) Cup-shaped objects

calico scale (*Lecanium cerasorum*) A pest of the pear ($\frac{1}{8}$ - to $\frac{3}{8}$ -in. diam.) that produces convex, brown, irregular white marks on limbs and leaves; the scale produces honeydew on which black fungus grows.

California green A chile pepper. When fresh it is bright green, 6–8 in. long, 1.5–2.0 in. diam. at the top, and tapered to the bottom. When canned it is soft, moss green and mild to mildly hot in flavor

California green chile See **Anaheim green chile**

California pear sawfly (*Pristiphora abbreviata*)
An insect that feeds on pear leaves

California steak Steak cut from the chuck

California tokay Normally, an equal mixture of port sherry and angelica

californium (Cf) A synthetic radioactive element of the actinide series; Group IIIB of the Periodic Table; at. no. 98; mass number of most stable isotope 249; oxidation state +3;
electron configuration 2-8-18-32-28-8-2
orbit K L M N O P Q

calipash Fatty, greenish flesh from the green turtle

caliper See **vernier**

caliper inch Thickness of paper in thousandths of an inch, or points, i.e., 0.020 inch = 20-point caliper

calisay A quinine-flavored herb liqueur

calisaya (*Chinchona calisaya*) The very bitter bark of the chinchona tree; used in bitters

callaloo 1) type of spinach. 2) A food made of simmered salted meat, okra, and several vegetable leaves

calliste A sweet, heavy, Greek wine

call option purchase The right, but not the obligation, to buy a futures contract of a commodity at a specific price during a specified period of time. The purchaser pays a fixed amount of money to the seller for this right, and the amount is the most that can be lost if the option contract turns out unfavorably

calnitro A neutral fertilizer material made from two-thirds ammonium nitrate (NH_4NO_3) and one-third dolomitic limestone; 20.5-0-0

caloric punch An alcoholic drink made from rum and syrup

Calorie (C; kcal) A unit of heat used to indicate an energy equivalent. See **kilocalorie**

calorie (cal; gram-calorie; small calorie; standard calorie) The heat required to raise the temperature of 1 gram of water from 15 to 16°C; the guideline for women (23–50 years old) is 2000 calories per day average energy allotment

1000 gram-calories = 1 kilocalorie (kcal)
 1 cal = 4.186×10^7 ergs (erg)
 = 4.186 joules (J)
 = 3.0874 foot-pounds (ft-lb)
 = 3.968×10^{-3} British thermal units (Btu)
 = 0.001 kcal

See Part 2: Beans, Peas, and Nuts; Beef, Percentages of Daily Recommended Allowances; Calories, Basal, Per 24 Hours; Calories, Daily Recommendations; Calorie Utilization; Cereal, Nutrient Content; Cherry Composition; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish, Composition; Flour, Extraction Rates; Food, Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Lamb, Percentages of Daily Recommended Allowances; Lime Juice Composition; Macaroni and Noodles, Composition; Meat and Meat Products, Composition; Meat Composition; Meat, Nutritive Value; Milk and Cheese Composition; Oils and Fats, Composition; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Pulses, Nuts, and Seeds, Composition; Recommended Daily Dietary Allowance; Sausage Composition; Sausage, Nutritive Value; Soups, Composition; Starchy Roots, Composition; Sugars and Sweets Composition; Sugars and Syrups, Composition; Tomato and Tomato Products, Composition; Turkey Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Wheat, Parts of Grain

calorimeter An instrument used to measure heat generated or emitted or energy value; a bomb calorimeter measures direct heat generated by burning food; a respiration calorimeter measures the amount of oxygen (O_2) used in an activity, which is an indirect method of calculating energy use

calory (calorie) See Part 2: Olives and Pickles, Composition; Sweet Potato, Nutritive Value

calory, large (C, kcal)
 1 kcal = 1000 calories (cal) see **calorie**

calpis Sour, diluted milk

caltrop See **water chestnut**

calvados A strong, aged apple brandy. See **cider**

calyx The outer portion of flowering parts of plants

calza See Part 2: Iodine and Saponification Values

camambu A South American gooseberry-type shrub

camargue A fresh cheese made from ewe's milk

cambium The tissue between the bark and the wood

cambric tea A weak tea diluted 50% with hot milk

cambridge A creamy, full-fat, soft, unsalted cheese made from cow's milk; consumed fresh or after short maturation

cambridge cheese A soft, English rennet cheese made from cow's milk

cambridge sauce An English mayonnaise substitute; a variation of mayonnaise flavored with herbs, anchovy, capers, and mustard

cambridge sausage A lean, dry sausage with little seasoning, made primarily from beef (little pork)

camden tablet Potassium metabisulphite, used to generate sulphur dioxide (SO_2) as a food preservative

camel A large ruminant quadruped with a characteristic hump (Arabian or dromedary) or two humps (Central Asiatic) used for work and food (meat and milk). Jews do not eat camel meat; Arabs are permitted to eat camel meat.

See Part 2: Gestation Periods; Milk and Cheese Composition; Milk, Mammals, Composition

camembert A very soft ripened, full-fat, dry-cured dessert cheese having a creamy yellow interior, an edible, thin, whitish crust, a delicate flavor, and a pungent aroma; made from whole cow's milk that is pasteurized and inoculated, with rennet added, and is not scalded; the cheese is not pressed and is ripened by external molds (*Oidium lactis* in early stages of ripening and *Penicillium camemberti* or *P. candidum* in later stages); it is wheel-shaped, with a 4-in. diam., and 1 in. thick, smaller in size than coulommiers, and ripened 4–5 weeks. It may run at room temperature

Composition: moisture 50–52%; protein 17–20%; fat 25–26%; carbohydrate 2%; ash 4%; salt 2.5%; 239 mg Na/oz; pH 7.4

Storage: Refrigerate, tightly covered; use within 2 weeks; can be frozen (0°F) if no more than 1 in. thick, use within 6 months. Dries out quickly if not protected

See Part 2: Cheese Characteristics; Cheese Composition; Cheese, Vitamin Content; Glutamate; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

camembert cheese One wedge of a 4-oz package containing three wedges has 115 calories

camerano A semisoft, mildly acidic, smooth cheese made from goat's milk

camomile (*Anthemis nobilis*) A perennial herb of the daisy family that is grown for the drug camomile, which is used to season beverages and as a medicine, usually in the form of a bitter or herbal tea. See **chamomile**

camosun A soft to semisoft, crumbly textured cheddar cheese that is cured 1–3 months and coated with paraffin

130 camouflage coating

camouflage coating A transparent olive drab coating required on some military food cans

campari A bitter, quinine-flavored, red, vermouth, Italian aperitif wine containing 16–18% alcohol

campenac A medium-flavored, semisoft cheese

campesino A semisoft, mildly acidic, smooth, lightly pressed cheese made from cow's milk

camphor ($C_{10}H_{16}O$) A product derived by distillation of a wood native to Taiwan; has a strong, sharp odor; it is also synthesized from pinene; used as a moth-proofing agent and as a food flavoring

See Part 2: Essential Oils

camphor oil Obtained by distilling the wood or leaves of *Cinnamomum camphora*

can (tin can) A metal container of various sizes used for preserving heat-processed foods; made of steel coated with an extremely thin electroplated layer of tin and a further coating of a lacquer or enamel composed of a polymerized natural or synthetic resin (for acid or sulphur-containing foods or for brightly-colored foods); the body is lap-jointed and soldered (on the outside).

Size	Measure (cups)	Weight	
		lb	oz
No. 10	13	6	10
No. 5	7	3	8
No. 3 cyl.	$5\frac{3}{4}$	3	3
No. 3 special		2	14
No. 3	4		33
No. $2\frac{1}{2}$	$3\frac{1}{2}$		28
No. 2	$2\frac{1}{2}$		20
No. 303	2		16
No. 1 tall	2		16
No. 300	$1\frac{3}{4}$		15
12 oz	$1\frac{1}{2}$		12
No. 1	$1\frac{1}{3}$		11
Picnic	$1\frac{1}{4}$		$10\frac{1}{2}$
8 oz	1		8
No. $\frac{1}{2}$ (8 oz)	1		8

Type of can and recommended use:

C enamel (corn enamel)—corn hominy

R enamel (sanitary, or standard, enamel)—beets, red berries, red or black cherries, plums, pumpkin, rhubarb, and winter squash

Plain tin—most other fruits and vegetables

To check can seals:

1. Place a small amount of water in the can.
2. Seal the can.
3. Submerge the can in boiling water for a few seconds.
4. If air bubbles rise from around the can, the seam is not tight.

See also **canning** and entries under **canned**; **collar can**; **compartment can**; **composite can**; **container code**; **container specification code**; **sanitary can**; **tin can**

See Part 2: Canned Food, Processing; Canned Spoilage Manifestations; Canned Spoilage Related to pH; Canned Yield; Cans, Construction; Cans, Conversion Table; Cans, Equivalent Sizes; Cans, Sizes; Cherries,

Canned Weights; Frozen Food Containers; Fruit and Vegetables, Cost Per Serving

Canada thistle (*Cirsium arvense*) A perennial weed

Canadian bacon Pork sirloin muscle that has been cured, placed in an artificial casing, and smoked; sometimes flavored with maple syrup

See Part 2: Broiling Time and Temperature; Pork, Cooking; Pork, Cooking Methods; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Roasting, Time and Temperature

Canadian cheddar (bulk; store) A white or yellow, mild to sharp cheese made from unpasteurized cow's milk.

Canadian whiskey A light whiskey distilled from rye and malted rye with maize and malted barley; it is always a blend and is usually aged for 6 years.

cananga (ylang-ylang oil) An essential oil obtained by distilling flowers of the *Cananga odorata* plant native to Java; used as a flavoring agent

Storage: full, tight, glass container in a cool, dark place

See Part 2: Essential Oils

canapé A small, shaped, toasted white, rye, or brown bread or cracker covered with a well-seasoned spread; it is usually garnished with brightly colored food and served as an appetizer.

canary creeper See **nasturtium**

canary grass (peppergrass; *Phalaris cana iensis*, *Lepidium*) Any of a number of grass seeds used to feed birds

See Part 2: Seed, Germination

cancellated bone tissue A tissue found inside most bones; it has the appearance of a sponge.

cancer (carcinoma) Malignant neoplasm cells proliferate uncontrollably, often forming tumors that eventually interfere with a vital function

cancoillote A cheese made from skimmed cow's milk and made into a spread by adding butter, wine, and seasonings

candelilla A light brown wax obtained from the underside of the leaves of certain plants (e.g., *Euphorbia antisyphilitica*) in Latin America and Texas; used in chewing gum as a masticatory substance and as a surface-finishing agent; also used for waterproofing, paper coating, etc. Acid value 12–22; saponification value 43–65; sp. gr. 0.983

Storage: well-closed container

See Part 2: Wax

C and F See **cost and freight**

Candida albicans A yeastlike fungus that may cause human infection

See Part 2: Microorganism, Media

candida BCG agar See Part 2: Microorganism, Media

candied Describes fruit or nuts that have been coated with sugar syrup to improve flavor and to preserve

candied fruit (crystallized fruit; glacé) Fruit (or citrus peels) impregnated with syrup until sugar concentration is high enough to inhibit bacterial growth; the fruit is then washed and dried.

1 lb candied fruit and peel = 2.5 cups

candied peel Citrus peel that is cooked in syrup until it is crystallized

candied vegetables Vegetables glazed with butter and brown sugar

candle An early method of illumination; made from tallow, wax, or spermaceti

candleberry See bayberry

candlefish (halfbeak; *Thaleichthys pacificus*) A type of smelt; a saltwater fish, used for food

candle nut An oily, hard-shelled nut used in cooking

candle per square centimeter (candle/cm²)

1 candle/cm² = 3.146 lamberts

candle per square inch (candle/in.²)

1 candle/in.² = 0.4870 lamberts

candlepower Illumination power of a standard sperm oil candle

1 candlepower (spherical) = 12.566 lumens

See also **foot-candle; lux**

candle wax To remove stain from cloth, scrape off excess, press cloth between paper towels or facial tissue with a warm iron, sponge with cleaning fluid, sponge with alcohol diluted with two parts of water, and rinse.

candling Looking at the inside of an egg to determine its quality, with the aid of a light (candlelight was used previously); placing an egg in front of a light source to determine the interior quality. The presence or quality of the following can be determined:

- Blood clots
- Developing embryo
- Meat spots
- Molds
- Position of the yolk
- Size of the air cell

candre des riceys A riccio-type cheese matured in wood ashes

candy (sweets) 1) To cook in sugar or syrup. 2) A sugar-flavored confection

Description	Temperature of syrup		Product
	(°F)	(°C)	
Syrup	220-230	104-110	Syrup
Thread (spins thread when dropped from fork)	230-234	110-112	
Soft ball (ball in cold water, flattens when removed)	234-238	112-114	Fondant, fudge, panocha
Medium ball	238-244	114-118	Caramels
Firm (stiff) ball (firm in cold water, does not flatten in fingers)	244-248	118-120	
Hard ball (pliable but holds shape)	248-254	120-123	Divinity
Very hard ball	254-265	123-124	Marshmallows
Light (soft) crack (threads are hard but not brittle in cold water)	265-285	124-141	Popcorn balls
Hard crack (threads are hard and brittle in cold water)	290-300	143-149	Butterscotch Taffy
Caramel stage	320-360	160-182	Brittle Glacé

Type	Varieties	Ingredients
Candy bars	Individually wrapped	Chocolate and nuts, compound center (coated with chocolate); plain center; plain chocolate
	Caramel nut roll	
	Coconut bar	
	Nougat bar	
Caramel or toffee	Peanut butter crisp	Sweeteners (corn syrup, dextrose, invert sugar, sugar)
	Caramel—soft and chewy	
	Toffee (cooked longer)—harder	
Chocolate	Milk	Other ingredients (fat, milk)
	Sweet	Chocolate min. 10%; 12% whole-milk solids 35-50% sugar
Coated	Chocolate coated	Chocolate min. 15%; 40-60% sugar
	Almond	Coating, flavor, powdered milk, pulverized chocolate, sugar
	Bon bon	
	Filbert	
	Maraschino cordial cherry	
	Marshmallow	
	Peanut	
	Raisin	

Continued

132 candy (sweets)

Type	Varieties	Ingredients
Coconut		Coating (chocolate, crystallized, fondant, iced, sugared) Coconut (finely shredded, desiccated) Syrup (corn syrup, invert sugar, sugar) Aerating substances (egg white gelatin, soy protein) Corn syrup Cream of fondant
Cream candies (fondant)	Crystallized cream or French cream Centers with consistency of fudge; coated with sugar crystals, glazed cream, or firm cream Centers with consistency of fudge; coated with soft thin glaze; Cream centers and usually chocolate-coated	Sugar Other ingredients (fruit acid, salt) Other sweeteners (dextrose, invert sugar)
Fudge		Sweeteners (corn syrup, dextrose, invert sugar, sugar) Other ingredients (milk products) Sometimes used—corn starch, egg white, fat, flour, fruit, gelatin, nuts
Gums or jellies		Jellying substances (agar, gelatin, gum arabic, pectin, starch) Sweeteners (corn syrup, sugar) Sweeteners (corn syrup, dextrose, invert sugar, sugar) Other ingredients (baking soda, cream of tartar, fruit acid, salt) Sometimes added—butter, chocolate, fruit, honey, milk, molasses, nuts
Hard	Anise square Brittle Butterscotch waffle Candy tablet Clear mint Cut rock candy Filled hard candy Lemon drop Ribbon candy Stick candy Sucker Taffies	Extract from root of licorice plant, molasses, starch, sugar Binders (egg white, gelatin) Flavoring (vanilla) Sweeteners (corn syrup, dextrose, sugar) Whip or frappe whipping sugar and corn syrup with one or more of the following: cooked syrup, egg white, gelatin, soy protein Other ingredients (oil) Sometimes added—fruit, nuts Coat with sugar and polish in a revolving pan—centers, cream, gum, marshmallow, nuts
Licorice		Bonding substances (corn syrup, dextrine, gelatin, gum, starch, stearic acid) Sweeteners (dextrose, powdered sugar) Other ingredients—cocoa, malted milk, powdered malt, powdered milk, syrup
Marshmallow	(Fluffy texture due to incorporated air)	
Nougat	Chewy	
Panned	Easter egg French burnt peanut Jelly bean	
Sugar lozenge or pressed tablet		

See **caramel; confection**

See Part 2: Candy Storage; Storage Times; Sugars and Sweets, Composition

candy cane

1 cup, finely crushed = 6 oz

candy corn See Part 2: Sugars and Sweets, Composition

candy, hard See Part 2: Sugars and Sweets, Composition

candy, marshmallow See Part 2: Sugars and Sweets, Composition

candy, peppermint

1 cup, finely crushed = 6 oz

cane Mature shoots of the current season or dormant growth of the preceding season

cane and maple syrup See **sugar and maple syrup**

cane blight (*Leposphaeria coniothyrium*) A fungus that develops in cut ends of raspberry and blackberry canes. Canes appear brown and purple near the cut area; dark brown cankers appear and extend down the cane or encircle it, and branches above it will wilt.

Control: well-drained area; keep weed-free, prune at least 3 days before an anticipated rain; remove and burn infected canes; use fungicide spray

canella (*Canella alba*) A tree whose inner peel is used to make an aromatic condiment

cane spirit Rum

canestrato 1) A hard, strong, basket-molded cheese made from ewe's or goat's milk; an esbareich-type cheese pressed in a wicker mold. 2) A wicker mold press for cheese

cane sugar See **sucrose; sugar cane**

cane syrup (cane ribbon syrup) A light syrup made from cane sugar juice that has been boiled down to the consistency of syrup

1 cup sugar = 1 cup cane syrup - $\frac{1}{4}$ cup water

See **sugar cane syrup; top syrup**

canistel (*Pouteria campechiana*) A tropical American, sweet fruit with orange flesh

canker See **bacterial canker**

cankerworm An insect; the adult males are gray moths and the females are wingless, plump, and gray. Larvae are slender, light to dark brown "measuring worms," yellowish on the sides. They cause defoliation.

can manufacturer's end See **factory end**

canned condensed soup Store below 70°F; shelf life 1 yr

canned fish Store below 70°F; shelf life 1 yr

canned fruit A fruit, such as peaches, pears, grapefruit, etc., that has been packed in cans and heat-treated. There are three grades: A (Fancy); B (Choice); C (Standard).

1 (16-oz) can, contents with liquid = 4 servings

1 (16-oz) can, contents drained = 2-3 servings

Storage (canned): room temperature; below 70°F will give a shelf life of 1 yr

Storage (opened): Refrigerate in original containers or, for better flavor retention, store in glass or plastic container.

See also **canning**

See Part 2: Fruit Servings Per Pound; Storage, Dry

canned fruit juice Fruit juice that has been placed in a can and heat-treated.

Storage (canned): room temperature; below 70°F will give a shelf life of 1 yr

Storage (opened): Refrigerate in original container or, for better flavor retention, store in glass or plastic container.

canned goods Any food product that has been preserved by canning

Advantages:

Available all year

Easy and economical storage

Fast preparation

Nutrient content is stable

Disadvantages:

Color change

Loss of texture

Sugar and salt often added

See also **canning**

See Part 2: Storage Times; Thermophiles; Vegetables, Canned Grades; Vegetables, Canning Dates

canned ham A ham that has been preserved by canning; cooking shrinkage 7-15%

See Part 2: Pork Storage

canned meat A meat or meat product that has been preserved by canning

Storage: below 70°F, shelf life 1 yr

See Part 2: Meat and Meat Products, Composition; Meat Composition

canned milk See **condensed**

canned pork A pork product that has been preserved by canning. Maximum increase in weight is 8% over fresh, uncured weight. See also **canning**

canned poultry Store below 70°F; shelf life 1 yr

canned shelf stable Products that are commercially sterilized or pasteurized (heated to 150°F internal temperature) and should be kept refrigerated

canned vegetables Vegetables (beans, peas, corn, beets, etc.) that have been preserved by canning.

Grades often used are:

Grade A or Fancy

Grade B or Extra Standard

Grade C or Standard

Below Grade C, Substandard, or below standard

Most vegetables yield 3-4 servings per can (16 oz)

Greens, such as kale or spinach, yield 3-4 servings per can (16 oz)

Storage (unopened): cool (below 70°F), dry, use within 1 yr (safe if seal is not broken)

Storage (open): may be left in can; refrigerate; use within 2-3 days. Acid vegetables may react with can lining to produce a harmless metallic taste.

See Part 2: Storage, Dry; Vegetables, Canned Grades; Vegetables, Canning Dates; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh

cannelloni Big tubes of pasta filled with spiced meat

134 canner

canner Thin, aged cattle used for boneless beef and canning

See Part 2: Grades, Meat

canner's end See cover

cannery A factory devoted to canning food products, often with a high degree of automation

See Part 2: Wastes, Agricultural and Industrial

cannibalism 1) The act of an animal pecking or eating another animal of its own kind. 2) Desire or need for blood

canning Preservation of a foodstuff by enclosing it in a sealed airtight container and heating under high-pressure steam for specified periods of time at temperatures from 190°F for acidic foods to 250°F for other types. The heat treatment is essential to destroy bacterial spores (sterilization). See also can

cannocchie (*Squilla mantis*) An edible crustacean used for soup

cannoli Pastry filled with cheese and cream and flavored with Marsala, chocolate, vanilla, or fruit and sprinkled with sugar

cannon Live animal area on front legs below knee and above fetlock; on rear legs below hock and above fetlock; carcass. See also shank bone

cannonau Dry, full-bodied red and rosé wines produced in Sardinia

cannula Tube that can be inserted into the body to connect internal structures to the outside of the body

canola An oil seed related to rapeseed; plant 8 lb/acre

can, sanitary Double-seamed can with a bottom lid attached and with a full open top that is double-seamed after filling

can size See can

cantal (auvergne; auvergne bleu; fourme; fourme de Cantal) 1) A semihard rennet cheese made from skimmed cow's milk. 2) A tall, cylindrical (30–45 kg, 14-in. diam.) dry, pressed cheese, made from cow's milk, that has a hard rind, is fairly strong in flavor, and matures after 2½ months. 3) Pressed but uncooked French cheese that contains very little water and is sometimes made from unskimmed cow's milk

See Part 2: Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

cantala (*Agave cantala*) A plant similar to sisal

cantalón A smaller (10 kg) cantal-type cheese

cantaloupe (basket muskmelon; muskmelon; Cucumis melo reticulatus) The words cantaloupe and muskmelon are often used interchangeably, but cantaloupe is usually used for a small muskmelon; a species of muskmelon; 50 lb/bu; seed 2–3 lb/acre; ½ oz./100-ft row; space in hills 2 ft apart in 5-ft rows; thin to two plants per hill.

Types:

Green-meated—round, early maturing; good shipper

Pink-meated—usually elongated with light netting

Salmon-tinted—usually round, with good netting and flesh; salmon color in center and green close to rind

A clean stem indicates melon was picked when ripe. Used as a breakfast food, appetizer, salad, or dessert; 4–6-in. diam.; 10 ribs (others lacking); matures in 100 days; gray-green skin color, which turns yellow when ripe. Full maturity:

1. Full slip—stem is gone, and a smooth shallow basin remains.

2. Netting is thick, coarse, and corky.

3. Skin ground color is yellowish.

Variety and common name:

Cantalupenis (true cantaloupe of Europe, rock melon)—not netted; rough, warty surface

Chito (mango melon)—used for preserves and pickles

Conomon (Oriental pickling melon)—used in pickling and cooking

Dudaim (Queen Anne's pocket melon)—small; highly scented used for preserves and pickles

Flexuosus (snake melon)—3 × 48 in.

Inodorus—honeydew type, casaba group, and Persian melon

Flesh color	Netting	Shape
Green	Covers melon	Round
Pink	Light	Elongated
Salmon (yellow)	Covers melon	Round

Variety	Fruit			Flesh	Season
	Size	Shape	Appearance		
Burpee Hybrid	4 lb	Slightly oval	Netted, ribbed	Orange; excellent	72–82 days
Bushwopper Hybrid			Thin skin; short vine; small seed cavity		70 days
Chaca Hybrid	3.5 lb	Oval			80 days
Crenshaw	5–6 lb		Dark greenish yellow	Salmon	110 days
Delicious	6.5 × 7 in.; 5 lb	Oval	Faintly netted; slightly ribbed	Orange	86 days
Dulce Edisto				Salmon; high sugar	95 days
Luscious Golden Perfection Gold Star	4.5 lb	Oval	Thin rind		

Variety	Fruit		Appearance	Flesh	Season
	Size	Shape			
Granite State			Small seed cavity	Orange	Early
Gulf Stream					
Hale's Best	6 × 5.5 in. 4 lb	Oblong		Deep orange	80 days
Hale's Best Jumbo	2½ lb	Oval		Salmon	80 days
Harper Hybrid	5.5 in.	Round	Netted	Deep orange	74 days
Harvest Queen	Med.	Oval	Thick netting; tough rind	Thick	90 days
Hearts of Gold	5 × 6 in.; 3 lb; med.	Round	Well-netted	Orange; sweet	95 days
Honey Rock	5.5 in. 3 lb.	Round	Hard rind; netted	Salmon	74–85 days
Minnesota Midget	4 in.			Yellow; high sugar	Early; 60 days
Osage					
Perlita					
PMR 45					
Pride of Wisconsin (Queen of Colorado)					
Rocky Ford (type)	2½ lb			Green	84 days
Samson Hybrid	6 in.; 5.5 lb	Oval		Deep orange	90 days
Saticoy Hybrid	4 lb	Oval	Slightly ridged; fine netting; firm, hard rind	Deep orange	80 days
Schoon's Hard Shell	Large				
Scoop	5 in.	Oval	Short vine		61 days
Short 'n' Sweet		Round	Ridged; light brown	High sugar	75 days
Super Market	4–5 lb			Deep orange	90 days
Surprise					
Sweet Air (Knight)					

Composition: moisture 94%; protein 0.6%; fat 0.2%; carbohydrate 5%; fiber 1.2%; pH 6.1–7.1; vitamin A (in deep colored varieties) 3420 IU/100 g; 33 mg/100 g ascorbic acid

Jumbo crate (13 × 13 × 22.1 in.) = 83 lb

1 doz, fresh = 28 lb

= 22 pt, frozen

1 large = 6.5 cups, coarsely chopped

5-in. diam. = 1½ lb

1 small = 1.75 cups, cubed

= 2.5 cups, balls

1 pt, frozen = 1–1.25 lb, as purchased

1 cup, cubed = 5.8 oz

= 160 g

See Part 2: Calcium, Daily Recommendations; Food, Composition; Fruit and Vegetables, Diseases; Fruit, Availability; Fruit Composition; Fruit Composition, Part 1; Fruit, Frozen Yield; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Protein Factors; Storage; Transit Temperature; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Storage; Vitamin A; Vitamin A, Daily Recommendations; Vitamin C

canthaxanthin A food additive (natural and synthetic) used to color (orange-red) food

Cantino PYG agar See Part 2: Microorganism, Media

Cantonese pig See Pearl River Delta Pig

canton oolong A Chinese oolong tea

canton shrimp Sweet-sour fried shrimp

cap 1) See **closure**. 2) A natural casing used in the meat trade, made of pork caecum

See Part 2: Casings, Animal; Casings, Hog and Beef; Casings, Terms; Glass Jar Tops

capacitance The ability to store an electrical charge

capacitor (C) Two conductors separated by an insulator; circuit symbol \dashv \vdash

q = quantity of electricity necessary to charge the capacitor, in coulombs ($q = Ce_c$)

C = capacitance of capacitor in farads, ratio of charge to voltage

e_c = potential across capacitor

The larger the conductors and the thinner the insulator, the higher the capacitance value

capacola (capicola; capicolla; cappicola) A dried meat product made from boneless cala butts and seasoned with red pepper pods. See also **capocollo**
See Part 2: Sausage Identification; Sausage, Types

cap corse A vanilla- and fruit-flavored, dark, red-brown aperitif wine

cape gooseberry See **gooseberry**

capelin A small, edible, smeltlike food fish

Arctic, *Mallotus catervarius*

Atlantic, *M. villosus*

Capeline (Pacific), *M. socialis*

136 caper (*Caparis spinosa*)

caper (*Caparis spinosa*) A green, pea-sized, four-angled, unopened bud of the Mediterranean shrub (caperbush); used as flavoring in cooking, pickles, and as a sauce. They are dried and placed in strong vinegar. They are graded according to size: the smaller the capers, the more delicate the flavor; they have a peppery taste and are pickled in vinegar or crushed in butter. The green, firm capers are salted and preserved in vinegar

Types:

- Capuchins or capotes—large buds
- Mountain pepper—seed
- Nonpareils—small buds are placed in bottles
- Pickles—fruit and/or seed

caper sauce A sauce flavored with capers and used on lamb or seafood

caper spurge (*Euphorbia lathyris*) A biennial herb whose fruit is sometimes used as a substitute for capers

capibara (capybara) A South American animal similar to a large guinea pig that has been suggested as a meat-producing animal

capicola See **capacola**

capicolla See **capacola**

capillary A small vein, 0.0007-in. diam.

capital gains The difference between the purchase price and the sale price of property after all expenses are paid

caplin (capelin; icefish; *Mallotus villosus*) A small smelt See capelin; icefish; smelt

capocollo Products from the commune of Parma, Italy

Capocollo items:

- Beef bung casing—dry-cured in vats; natural beef bungs, semidry
- Coppa—trimmed center portion of a pork shoulder, dry-cured for several weeks, rolled in paprika and red pepper, heat-processed (may be smoked), and air-dried; may or may not be cooked See also **capacola**

Ham—center section of ham

Ham, sweet—ham and black pepper

Vacuum-packaged sausage—liquid-cured; artificial casing

capon A desexed, young male chicken (less than 8 months old) that was castrated when 6 weeks old or implanted with a female sex hormone; poultry that has tender meat, with soft, pliable, smooth-textured skin.

See Part 2: Poultry Dressing Percentage; Poultry Roasting; Poultry Yield

caponata Fish salad

capon pick Long feathers of wing and lower feathers of leg are not removed

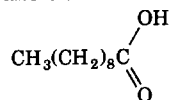
capote See **caper**

capper vacuum efficiency The ability of can capper to produce vacuum in a sealed container

cappicola See **capacola**

caprian A cheese made from goat's milk

capric acid (decanoic acid)



A 10-carbon saturated fatty acid (glyceride) found in butter, coconut, and palm oil

See Part 2: Fat and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids, Fats and Oils; Fatty Acids and Their Properties; Milk, Fatty Acids, Seasonal; Saturated Fatty Acids

caprice des dieux A semisoft, mild, double-cream (high fat), white, mold-covered cheese made from cow's or goat's milk

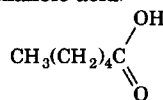
capricet des dieux Rich, soft, ripened cheese made from cow's milk; contains 72% fat on a dry-weight basis

capricornia A citrus liqueur

caprine Pertaining to goats

caprino Italian cheese made from goat's milk

caproic acid (hexanoic acid)



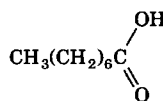
A six-carbon saturated fatty acid found in butter, coconut, and palm oil

See Part 2: Fatty Acids; Fatty Acids, Fats and Oils; Fatty Acids and Their Properties; Milk, Fatty Acids, Seasonal; Saturated Fatty Acids

caproleic acid An unsaturated fatty acid found in vegetable oils

See Part 2: Unsaturated Fatty Acids

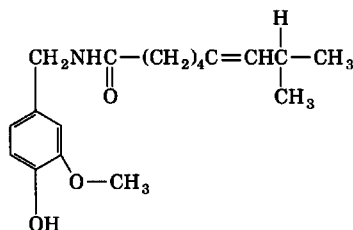
caprylic acid



An eight-carbon saturated acid found in butter, coconut, and palm oil

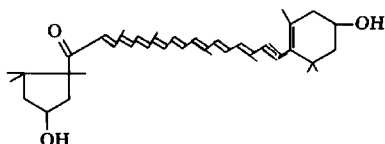
See Part 2: Fat and Oil, Fatty Acid Composition; Fatty Acids; Fatty Acids, Fats and Oils; Fatty Acid Properties; Milk, Fatty Acids, Seasonal; Saturated Fatty Acids

capsaicin [*N*(4-hydroxy-3-methoxybenzyl)-8-methylnon-*trans*-6-enamide]



Responsible for heat fraction in capsciums; pungent flavor is detectable in dilutions of $1:17 \times 10^6$

capsanthin Major pigment of red forms of *Capsicum annuum*



capsicum (*Capsicum*) A classification that includes many essential spices: cayenne pepper, chili pepper (Japanese, Turkish), chili powder, hot red pepper, paprika (Hungarian, Spanish), pimiento, and tabasco. General nomenclature often uses the word capsicum to mean the larger-fruited, mildly to moderately pungent types; sometimes used interchangeably with chili; botanically, it denotes any of the red-podded peppers; however, some use it to include only the hot peppers. The peppers may be used whole or ground; fixed oil 12–22%

Classification based on type and use:

Bird (*C. frutescens*)—small, extremely pungent; used in Tabasco sauce

Cayenne—often improperly labeled as cayenne pepper or red pepper; blends of ground chili and capsicums; most pungent

Chili pepper—used whole or powdered; pungent; usually a blend of moderately pungent Mexican (chili ancho) and milder California (Anaheim) capsicums

Paprika (*C. annuum*)—sweet or mildly pungent; medium size and fleshy; always ground to produce red paprika (See **paprika**); used as a coloring agent

Hungarian—more pungent

Spanish—mild

Pimiento (*not* pimento)—used for pimiento cheese and stuffed olives

Red pepper—blends of ground chili and capsicums; large-fruited; pungent, but milder than cayenne; pungency adjusted by small quantities of chili

Sweet [mild (*C. annuum*)]—green or bell pepper; mild flavor; usually used when green, but sometimes allowed to ripen and turn red or yellow; often stuffed or pickled; used more like a vegetable than a spice

Standards:

Acid-insoluble ash max. 1.25–1.6%

Ash max. 8–10%

Calyces and pedicels max. 3%

Capsaicin min. 0.5%

Crude fiber max. 28%

Foreign organic matter max. 1%

Moisture max. 11%

Nonvolatile ether extract, dry basis, min. 5%

Starch max. 1.5%

Total nitrogen, dry basis, min. 2%

See **pepper** (**capsicum**)

capsicum oleoresin (African capsicum oleoresin)

A clear red to dark red liquid made by solvent-extraction from small-fruited, very pungent chilies (fat-soluble product—ether, hexane, chloroform; water-soluble product—acetone, ethanol) Scoville units

480,000–1,800,000; capsaicin 3.9–14%; ASTA color units up to 3500 max.; decolorized types, 400 max.

1 kg of 500,000 Scoville units = 20 kg good-quality cayenne

Available as a free-flowing product or on carriers

capsule 1) A thick, viscous, mucilaginous, jellylike, polysaccharide (or sometimes polypeptide) slime layer structure that surrounds some bacterial species. 2) A sacklike structure, e.g., the pod of a pea

capsule ink India ink used to stain bacteria—the unstained capsule is delineated by the ink; material used in the differentiation and serological identification of *Klebsiella* microorganisms

See Part 2: Microorganism, Media

cap tilt A can cap should be level with transfer bead or shoulder

capuchin See **caper**

caques Salted herring

carabao Water buffalo

See Part 2: Meat and Meat Products, Composition; Milk and Cheese Composition; Milk, Mammals, Composition

carambola (*Averrhoa carambola*) A small southeast Asian tree that bears a 3- to 5-in. long, ribbed (five-angled), yellow to orange fruit; the juice and flavor vary from sweet to acid; it is consumed fresh, as tarts, in preserves, and as a drink; the acid-sweet fruit is star-shaped in cross section.

Composition (raw): Moisture 90%; protein 0.7%; fat 0.5%; carbohydrate 8%; ash 0.4%

Varieties:

Golden Star

Mih Tao

See **bilimbi**

caramel (**burnt sugar**) 1) An amorphous, water-soluble, brown material obtained by heating carbohydrates (fructose 100°C, galactose, glucose, and sucrose 170°C, maltose 180°C) or by treating carbohydrates with a small amount of alkali or mineral acid, used for soft drinks, food, candy, and bakery products. Often used as a coloring (brown) and flavoring (pungent, bitter, less sweet than the sugar from which it was made). A sugar and water mixture that is heated until it turns brown. 2) A confection cooked to a stiff paste; a firm, chewy, noncrystalline candy with a waxy texture

1 cup = 22 caramels

3 med. caramels (1 oz) = 115 calories

See **candy**

See Part 2: Colors Permanently Listed; Minerals (Trace), Limits; Sugars and Sweets, Composition

caramelization Sucrose (sugar) heated past the melting point (170–180°C) so that it decomposes, gives off water, and turns slightly brown

cara mia A liqueur made by mixing amaretto with cream

carapace One-piece shell covering the head and thorax (body and tail) of a lobster or turtle

caravela A dry, amber wine

caraway (*Carum carvi* L.; *C. carvi* linn) A dried fruit (tiny, crescent-shaped seed) of an annual or biennial (70 days) plant of the parsley family; it has a

distinctive, tangy, slightly sweet, sharp flavor (aromatic) and is used as a spice. It is available whole and in a medium grind. The seed is hard, with five ridges, gray-brown in color, $\frac{1}{8}$ – $\frac{3}{16}$ in. length, and curved and tapered at the ends; used in pastries, soups, and salads; also used to make tea, breads, cheese, and kummel liqueur and to flavor vegetables and meat dishes; the roots, similar to parsnip, are used as a vegetable when immature; immature leaves are used in soup. Thin the thick-rooted herb to 7-in. apart in rows 18 in. apart. Oil is sometimes obtained by distilling crushed leaves. Volatile oil is often obtained by distilling the fruit.

Sources: Egypt, Poland, and the Netherlands

Composition (seed): moisture 9–10% (9% max.); protein 18–21%; fat 14–15%; average volatile oil 2.5% (v/w) min.; total carbohydrate 49–50%; fiber 12–13%; ash 5–6 (8% max.); HCl-insoluble ash 1.5% (max.)

Storage (seed): cool, dry, and dark place

Storage (oil): full, tight container in a cool, dark place

See Part 2: Essential Oils; Flavoring Agents, Natural

caraway cheese A cheese served with crackers or snacks.

Composition: moisture 39–40%; protein 25–25.5%; fat 28–30.5%; carbohydrate 3–4%; fiber 0%; ash 3–3.5%; salt 1.7%

caraway oil A colorless to light yellow oil obtained by steam-distillation of the dried, ripe fruit of caraway

Carvone content not less than 50%

Optical rotation +70° to +80°

Refractive index 1.484–1.489 at 20°C

Sp. gr. 0.914–0.940 g/ml

caraway seed extract Flavor extracted from caraway seed by boiling water

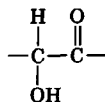
carawaywurst See **kummelwurst**

carbadox A drug used to promote growth, to increase feed efficiency, and to control swine dysentery enteritis

carbamide See **urea**

carbocyclic A ring structure containing only carbon atoms in the ring

carbohydrate $[C_x(H_2O)_y]$ Literally, “hydrated carbon” or “carbon and water.” 75% of the dry weight of a plant is composed of this class of substances; it is composed of C, H, and O and contains the saccharose group



The hydrogen and oxygen occur in the same ratio as in water. Carbohydrates include all sugars and polysaccharides, starches, and all forms of cellulose, (fibrous material) and glycogen. Their major function is to supply energy for the body but they are also the raw material for the manufacture of some B-complex vitamins and are part of the structure of many biological compounds. They also add flavor to food. Generally, they are divided into available (all monosaccharides, disaccharides, starch, and dextrin available for glycogen formation) and indigestible (cellulose,

hemicellulose, peptic substances, lignin, mucins, gums, and other polysaccharides). The coefficient of digestibility normally ranges from 85 to 98% for various foods.

See Part 2: Bananas, Composition; Beans, Peas, and Nuts; Cereal, Nutrient Content; Cherry Composition; Composition of Food; Concentrated and Dried Milk Products; Corn Kernel Composition; Cultured Dairy Products, Composition; Dairy Products, Composition II; Egg Composition; Egg Products, Nutritive Value; Egg Specifications; Fats and Oils, Composition; Fish and Shellfish, Composition; Flour, Extraction Rates; Food, Composition; Fruit Composition; Grain Products, Composition; Macaroni and Noodles, Composition; Meat and Meat Products, Composition; Meat Composition; Meat, Nutritive Value; Milk and Cheese Composition; Milk Composition; Oils and Fats, Composition; Olives and Pickles, Composition; Plant Foods, Composition; Poultry Composition; Pulses, Nuts, and Seeds, Composition; Sausage Composition; Seed, Chemical Composition; Soups, Composition; Spoilage, Carbohydrate Foods; Starch; Starchy Roots, Composition; Sugars and Sweetens, Composition; Sugars and Syrups, Composition; Sweet Potato, Nutritive Value; Tomato and Tomato Products, Composition; Vegetable Composition; Wheat, Carbohydrate Composition; Wheat, Parts of Grain

carbohydrate equivalent A value that measures the fattening power of a ration: = %protein(1.9) + %fat(2.5) + %carbohydrate

carbolic acid See **phenol**

carbon (C) A nonmetallic element; at. no. 6; at. wt. 12.011; Group IVA of the Periodic Table; electron configuration 2–4 orbit K L

oxidation states +2, +4, –4. Carbon is present in all organic matter; it has the unique ability to form four covalent bonds, thus readily combining with itself and other nonmetallic elements to form hydrocarbons, carbohydrates, alcohols, amino acids, and many other types of organic molecules. See also **photosynthesis**

See Part 2: Manure Analysis

carbon, activated (active carbon; activated charcoal; amorphous carbon; carbon black; decolorized carbon) A pure form of carbon that has been made porous by destructive distillation of carbonaceous materials followed by treatment with steam or CO_2 —a process called activation. Cellulose residues, coal, coconut shells, coke, lignite, peat, or sawdust are used. It is used to decolorize, clarify, filter, or deodorize food; the tremendous surface area (small particle size, 3000 ft² of surface per gram) of the microporous carbon serves to adsorb molecules of odors and colors in colloidal suspension. It is also used to concentrate organic matter for waste treatment analysis.

Storage: well-closed container

carbonara A sauce for pasta

carbonate A salt or ester of carbonic acid (H_2CO_3) characterized by the divalent CO_3 group

carbonated beverage A supersaturated solution of CO_2 and H_2O under pressure; a beverage made by

absorbing carbon dioxide (15–75 lb of gas pressure per square inch which is 1–5 volumes of gas) in potable water; other ingredients include sweetening agents (dry or liquid sugars, invert sugar, dextrose, fructose, corn syrup, glucose, sorbitol, or non-nutrient sweeteners), acids (acetic, adipic, citric, fumaric, gluconic, lactic, malic, tartaric, and phosphoric), flavors (derived from fruit, vegetables, bark, roots, and leaves, or artificial flavor), color (food or artificial color), preservatives, and numerous optional ingredients.

Calories	8-oz glass	12-oz can or bottle
Cola type	95	145
Fruit flavors (10–13% sugar)	115	170
Ginger ale	75	115
Root beer	100	150

1 fl. oz = 30.5 g
= 9.6 calories

See Part 2: Beverage, Carbonated, Ingredients; Microbiological Media

carbonated water See club soda

carbon black A food color, no longer approved by the Food and Drug Administration See **carbon, activated**

carbon dioxide (CO₂) An inorganic compound; a colorless, odorless gas at room temperature, 1.5 times as dense as air; a volatile colorless liquid at –37°C; a white, snowlike solid at –78°C that volatilizes directly into gas at room temperature (sublimes). It is nontoxic and noncombustible and is the end product of combustion and respiration. It is present in air in concentrations from 0.02 to 0.04%. It is essential in the photosynthetic reaction. Its uses and properties are:

1. Food preservation (refrigeration storage of fresh fruits and meats)
2. Carbonation of beverages
3. Leavening agent in baked goods, resulting from acid-carbonate reaction in baking powders

Critical temperature 87.9°F (31.0°C); pressure 1071 psia; bp (sublimes) –109.3°F (–78.5°C); heat absorbed during sublimation 247 Btu/lb; solid density 97.5 lb/ft³, fp –69.9°F (–50.6°C)

1 lb, solid = 8.7 ft³ gas at 70°C at 1 atm pressure

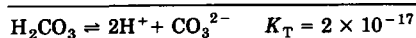
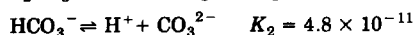
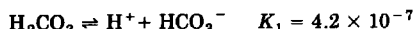
See also **dry ice** and **carbonated beverage**

See Part 2: Carbon Dioxide Dissolved in Water; Carbon Dioxide, Weight and Volume; Refrigerant

carbon disulfide (CS₂) Highly flammable, inorganic liquid; has lowest autoignition point of any liquid (212°F). Used as a solvent and fumigant

See Part 2: Fumigants

carbonic acid (H₂CO₃) A weak acid formed by the combination of CO₂ and H₂O; the CO₂ may be removed from H₂O by boiling.



carbon monoxide (CO) A highly toxic, inorganic gas resulting from incomplete combustion, as in automobile exhausts; it combines with hemoglobin in the blood 200 times as readily as oxygen.

carbon tetrachloride (CCl₄) A liquid chlorinated hydrocarbon that may be used as a fumigant. Its toxicity has caused it to be prohibited from household use as a cleaning agent or as a fire extinguisher.

See Part 2: Fumigants

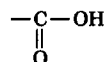
carbonyl group



Occurs in aldehydes, ketones, and organic acids. Also forms coordination compounds with metals; nickel carbonyl is extremely poisonous because it gives off carbon monoxide.

carborundum Silicon carbide; an abrasive used (can be used dry) to sharpen knives

carboxyl group



Occurs in carboxylic and fatty acids; usually written COOH

carboxymethylcellulose (cellulose gum; CMC; **sodium carboxymethylcellulose**) A synthetic water-soluble gum (polymer), in the form of a white powder or granules; it is an anionic cellulose derivative that is used as a stabilizing and thickening agent in such foods as ice cream, dairy substitutes, puddings, fruit concentrates, sauces, and baked and frozen products; it prevents sugar from crystallizing in candy.

Mixed with:

Gelatin—cold-water solubility

Nonionic polymers (hydroxypropylcellulose or hydroxyethylcellulose)—viscosity is increased

Because the reaction occurs in an alkaline medium (Na) it is also called sodium carboxymethylcellulose.

See Part 2: Stabilizers, Thickeners

carboy A large, bottle-shaped container made from glass, clay, earthenware, metal, or plastic; often encased in outer wooden crates.

carcass (**carcase**) The dressed body of a slaughtered animal, offal having been removed. MID definition: all parts, including viscera, of a slaughtered animal that are capable of being used as human food

See Part 2: Edible Meat and Chilled Carcass; Pork Carcass, Retail Yield; Pork Chart

carcavelos A dry or sweet dessert wine

carcinogen A substance (natural or synthetic) that causes cancer in experimental animals or in humans for example, benzopyrene, benzidine, and phenanthrene. The list of known or suspected carcinogens includes several hundred compounds (some of which are insecticides) and is constantly increasing. A cancer-producing initiator (usually) and/or promoter agent.

carcinogenic Cancer producing

carcinoma A malignant new growth of epithelial cells

cardamine (lady's smock) A plant used in salads

cardamom (cardamon; seed of paradise; *Elettaria cardamomum* Maton) Tiny, black, angular seeds of a reedlike plant (10 ft tall) of the ginger family used for spices (taste of anise, aromatic, pungent); buff-colored pods ($\frac{1}{2} \times \frac{1}{4}$ in., three cells) have been bleached but the dark ones have not. Seeds containing the spicy essence are enclosed in a capsule (which is discarded). They are harvested and carefully dried to prevent splitting of this protective covering.

Terms used:

Bold—large, well-formed seed

Bleached—pods that have been bleached (by sunlight or chemicals) to improve color (final color is straw to white)

Decorticated—seeds (strongest flavor) removed from pods

Greens—natural color of pods

Forms sold:

Decorticated—whole seed

Essential oil—3.5–7% of seed

Ground—pods and seed ground together

Ground seed (ground, decorticated; available in medium to fine grind)—used in baking

Oleoresin

Pods with seed inside

Volatile oil—distilled from seed

Types available:

Decorticated—capsules removed

Malabar—mellow aroma and flavor; 18.5 mm long
Mysore—harsh aroma and flavor; used for the whole green spice; 21 mm long

Whole, bleached—mature, picked after green color has faded; bleached with sulphur dioxide

Whole, green—Guatemala; mature, picked while green; dried in tumblers; color preserved by treatment; not as aromatic as white

Whole, straw-colored—mature; sun-dried

Whole, white—Middle Eastern; sun-dried; less aromatic

Used to flavor cookies, pastries, confectionery, curries, Danish baked goods, Indian curry, and soups, and to make tea. Oil of cardamon is obtained by distilling crushed seed.

Composition	Whole	Seed	Husk
Acid-insoluble ash	3–3.5% max.		
Ash	6–9.2% max.		
Crude fiber			31%
Moisture	11–13% max.		
Starch		50%	
Volatile oil	3–7%	4–11%	1%
Weight		59–79%	

Composition: moisture 8–11%; protein 9–14%; fat 6–7%; average volatile oil 5% and 3.5% (v/w) min.; carbohydrate 68–69%; fiber 11–12%; ash 5–6% (8% max.); acid-insoluble ash 3%

Sources: Guatemala, India, and Sri Lanka

Cardamom substitutes (false cardamom): *Aframomum* spp.; *Amomum* spp.

1 kg seed = 44,000 seeds

Storage (seed): cool, dry, dark place; in pods

Storage (oil): full, tight container in a cool, dark place

Organoleptic quality deteriorates with storage.

See Part 2: Flavoring Agents, Natural

cardamom essential oil An almost colorless to pale yellow oil obtained by steam-distillation of the dried fruit of cardamom; refractive index 1.46–1.466 at 20°C; sp. gr. 0.917–0.947 g/ml; optical rotation +22° to 44°

cardamom oleoresin Obtained by solvent-extraction (hydrocarbons, alcohol) of cardamom; volatile oil 52–67%; fixed oil 0–20%

1 kg oleoresin = 20 kg spice

cardamon See **cardamom**

cardamon oil See **cardamom essential oil**

cardboardy Flavor of oxidized milk

cardiac Pertaining to the heart

cardiac muscle The involuntary heart muscle

cardiga A mild, hard cheese

cardinal fish (spot bass; *Apogon imberbis*) A warm-water; mullet-type food fish

cardiolipins A phospholipid found in food

cardiovascular Pertaining to the heart or blood vessels

cardoos (beet-chard; cardoni; chard; *Cynara cardunculus*) A perennial plant similar to the artichoke that is grown for its 2- to 3-ft, grayish-green to grayish white leaf-stalks (ribs), which are blanched and (1 month required) eaten as celery, in salads and soups, and as a boiled vegetable. The leaves are used like spinach (cooked like sea kale) and the roots as a winter vegetable. The main root is also cooked (boiled) and used in salads. 650 seed/oz, germination period 12–16 days.

Varieties:

French (Tours)—long stem, prickles, good flavor

Spanish—spineless, average flavor, run to seed easily

Storage: like celery, in the refrigerator

See Part 2: Vegetable Plants

CARE Cooperative for American Relief Everywhere

carentan A camembert-type cheese made from cow's milk

cargo container A metal container (20 ft or longer) used to consolidate smaller packages for transfer to ships, flat-bed trucks, or trains

cargo preference A certain percentage of goods exported from the United States to be shipped in American ships

Caribbean cabbage The root of the arum plant, used like a turnip

caribou Reindeer

caries Decay and softening of bone (often teeth)

carignane 1) A wine grape. 2) A red table wine. 3) A French dessert wine

carinthian See **limburger cheese**

carioca A Cuban rum

carload lot A shipment that qualifies for a reduced freight rate because it is greater than a specified minimum weight

142 carrageen

Types: *Chondrus crispus*; *C. ocellatus*; *Eucheuma cottonii*; *E. spinosum*; *Gegartina acicularis*; *G. pistillata*; *G. radula*; *G. stellata*

See Part 2: Gum Characteristics; Gums and Gelling Agents; Gums, Physicochemical Properties; Minerals (Trace), Limits; Stabilizers, Thickeners

carrageenan (carrageenin) A phycocolloid extracted from carrageen and used in foods as a stabilizer, thickener, texture modifier, emulsifier, and gelling agent

Types:

Kappa—forms a brittle gel

Iota—forms an elastic, syneresis-free gel

Lambda—nongelling

Storage: well-closed container

See also **carrageen**; **phycocolloid**

carré de bonneville A semisoft, strong-flavored (matured 2–4 months) cheese that has small holes, weighs 800 g, and has an orange and white rind

carré de bray A small, camembert-type cheese made from cow's milk

carré de l'est A soft, mild-tasting, camembert-type, square-shaped, French cheese, with a floury rind, usually made from pasteurized cow's milk; packed in wooden chip, square boxes; dries out quickly if not protected

Types:

Carré de l'est fleurie

Carré de l'est lavé

carré demi-sel A creamy-textured, mild-flavored, slightly salted cheese made from pasteurized cow's milk and cream

carrier 1) Edible material to which ingredients are added. 2) A relatively tasteless liquid or solid material used to dilute or encapsulate active ingredient, i.g.

Carrier	Flavor form
Alcohol	Liquid
Gum arabic	Spray-dried flavors
Propylene glycol	Liquid

3) An individual who harbors and may disseminate an infectious agent but does not show any signs of the disease. 4) The portion of container-conveyor chair that keeps a stick of containers in a fixed place during transfer through a hydrostatic retorting cooker

carrot (*Daucus carota*; *D. carota sativa*) A biennial herb that has an orange (some varieties; reddish purple, white) cylindrical to spherical root; the root is high in vitamin A (carotene) and sugar (5–15%) content and is used for human food and livestock feed. Originally from the Mediterranean and Middle East; 25,000 (cleaned) seed/oz; 7–20 days germination period; thin to 2 in. apart in rows 15–18 in. apart; harvest when root is $\frac{3}{4}$ in. or larger at shoulder (becomes tougher with age); yield 1 bu/50-ft row.

Types	Root shape	Color	Days to maturity
Smallest	Almost as thick as long	Golden, orange, red	60–68
French Forcing			
Earliest Short Horn			
Oxhart	$\frac{1}{3}$ longer than wide; gradual taper; 3 in.	Orange, red	70–80
Chantenay	2 $\frac{1}{2}$ times longer than wide; tapers to blunt tip; 4 in.	Orange, red	78
Danvers Half Long	Tapers to a sharp point; 7 in.	Orange, red	75–80
Nantes Half Long	Cylindrical; 8 in.	Orange, red	70
Long Slender	Slight taper; 11 in.	Orange, red	85–95

When thinly sliced and soaked in ice water, the carrot will curl. To cook, boil or steam until tender.

Variety	Shape	Length	Uses	Season
Danvers (Processing)	Broad, tapered	7 in.	Table, frozen, storage	75 days
Gold-Pak	Slender	8 in.	Table, frozen, canned	76 days
Hipak	Tapered	8 in.		
Hutchinson	Long, slender	11 in.		
Imperator	Cylindrical to tapered	8–11 in.	Garden, frozen	75 days
Little Finger		Short		
Mores Bunching	Long, slender	11 in.		
Nantes	Cylindrical	7 in.	Raw, cooked, frozen	70 days
Parks Munchy Hybrid	Cylindrical	8 in.	Salads, cooked	
Red Cored Chantenay (Goldinhart)	Tapered to stump end	5 in.	Frozen	70 days

Continued

Variety	Shape	Length	Uses	Season
Royal Chantenay	Broad shoulder	6 in.	Frozen, garden	60-68 days
Royal Cross Hybrid	Broad shoulder	7 in.	Table, frozen, cooked	70 days
Short 'n' Sweet	Short taper	2 × 4 in.	Garden, frozen, canned	68 days
Streamliner	Long, slender	11 in.		
Sweetheart	Slender cylinder	6 in.	Very sweet	
Tendersweet	Uniform	9 in.	Sweet, coreless	75 days
Tiny Sweet	Broad, tapered	3 in.		

Canned styles available:

Diced ($\frac{1}{4}$ - or $\frac{3}{8}$ -in. cubes)
 Julienne (sliced lengthwise)
 Pureed
 Quartered
 Round slices (also called cuts; max. $\frac{1}{4}$ in. thick)
 Shoestring
 Small baby
 Strips
 Whole

Frozen styles:

Chips
 Diced
 Quartered
 Round slices (also called cuts)
 Strips
 Whole

Composition	Canned	Canned juice	Cooked	Dried	Raw
Moisture (%)	92	93	91	4	88
Protein (%)	0.5	0.4	0.9	4	1-2
Fat (%)	0.4	0	0.2	1.4	0.2
Carbohydrate (%)	6	5.5	7.1	85	10
Fiber (%)			2.1		1.2-3.7
Ash (%)	0.9	0.8	0.6	6	0.8-1
Sodium (mg./100 g)	236	236	33	268	47
pH		5.2-5.8			4.9-5.3

Refuse: 20-35% tops and scarpings

100 lb, fresh carrots = 10-12 lb dry carrots
 1 western crate (13 × 13 × 22.5 in.), bunched = 75 lb
 1 bu, fresh, without tops = 50-60 lb
 = 32-40 pt, frozen
 = 17-22 qt, canned
 10 med. carrots = 1 qt (0.75-in. slices)
 2-3 lb, fresh, without tops = 1 qt, canned
 2½-3 lb, fresh, without tops = 1 qt, frozen
 1 lb, without tops
 = 6-8 med. carrots
 = 3 cups, grated
 = 2½ cups, shredded or chopped or diced
 = 3-6 servings, diced or shredded
 1 lb, cooked = 4-5 servings
 1 large carrot = 0.5 cup, thinly sliced
 = 0.75 cup, shredded
 1 serving = 0.25 lb
 1 med. carrot, sliced = 0.2 lb
 1 5½ × 1-in. carrot = 50 g

1 cup carrots (form)	Raw	Boiled and drained	Canned	
			Drained	Solid and liquid
Chunks	4.8 oz	5.8 oz		
Diced	4 med.; 5 oz	5.0 oz	5.6 oz	8.6 oz
Grated or shredded	2-3 med.; 3.8 oz			
1-in. julienne	1.5-2 carrots 4.0 oz			
Slices ($\frac{1}{4}$ in.)	2-3 med. 4-6 oz	5.4 oz		5.2 oz

Storage: Dig before ground freezes; cut tops $\frac{1}{2}$ in. from crown; store in a cool place, covered with sand or paper; can be stored in a pit or cold cellar. Removing tops increases storage life; can be stored covered (90-95% relative humidity) in refrigerator (32°F); use with 1 week to 4 months; frozen (0°F) storage life 1 yr

See vegetable grade

See Part 2: Calories, Daily Recommendations; Canned Yield; Essential Oils; Food, Composition; Frozen Food Storage; Fruit and Vegetables, Diseases; Glutamate; Microwave Cooking, Frozen Vegetables; Minerals, Food; Niacin; Nicotinic Acid, Food; Nitrate, Vegetables; Organic Acids in Fruits and Vegetables; Pectin Content; pH Values of Biological Materials; Plant Foods, Composition; Planting Density; Portion Size; Potassium; Root-Crop Characteristics; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Tocopherols; Vegetable Boiling; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetables, Panned; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin A; Vitamin A, Daily Recommendations; Vitamin A, Food

carrot fly A carrot pest, attracted by the scent of the foliage

carrot oil A natural food additive used to color food (orange)

144 carrot seed oil

carrot seed oil A volatile, yellow to amber oil used for flavoring in food; steam-distilled from the seed of *Daucus carota*; saponification value 9–58; sp. gr. 0.90–0.94

Storage: full, tight, glass containers in a cool, dark place

Carr's A cracker

Types: Table Water; Wheat Meal

carrying capacity The number of animals per unit of area (including area to produce winter feed) that can be supported

carryover (end-of-year stocks) The supply of a farm commodity not yet used at the end of a marketing year

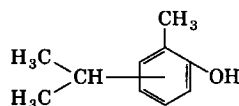
cartel An arrangement among enterprises in the same field aimed at securing an international monopoly

cartilage Strong, elastic connective tissue (softer than bone) associated with the bony system of the body; Precursor to same bone

See Part 2: Bone Age

cartridge A unit of use; a container made to be inserted into a dispensing device

carvacrol



Used as a food flavoring agent

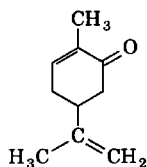
Storage: full, tight, glass container in a cool, dark place

carvelat A mildly seasoned, smoked, semidry (or summer) sausage

carving Cutting a cooked roast or fowl into portions for serving

See Part 2: Beef Rib Carving; Ham Carving; Lamb Crown Roast Carving; Lamb Leg Carving; Pork Loin Carving

carvone

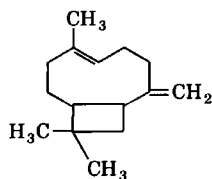


Steam-distilled from caraway oil and used as a caraway-like flavoring agent

Storage: full, tight glass container in a cool, dark place

-cary- A prefix or suffix meaning nut or nucleus

caryophyllene



Occurs in clove oil and used as a clovelike flavoring agent

Storage: full, tight glass container in a cool, dark place

caryopsis A grain in which the seed coat is attached to the ovary wall, the fruit and seed forming a single grain (i.e., wheat, barley)

casaba A large, globular to round, slightly ribbed, wrinkled, late melon that is slightly pointed, is greenish yellow to white, has a tough rind, and weighs 4–7 lb; the stem does not separate; the flesh is sweet, juicy, soft, light green to white, and similar to a honeydew melon. The casaba belongs to the muskmelon family. See **melon**

See Part 2: Storage

casalinga A large, Italian salami made from chunk pork seasoned with garlic and black pepper

Casal Mendes A carbonated white grape-juice wine

casamino acid Casein hydrolyzed by acid to amino-acid state

cascade A variety of bird's-foot trefoil

cascarilla oil (sweetwood bark oil) A volatile essential oil obtained by steam-distillation of the bark of *Croton cascarilla* or *C. eluteria*; saponification value 8–20; sp. gr. 0.89–0.91; used as a spicy flavoring agent in food.

Storage: full, tight, glass container in a cool, dark place

case An enclosure, usually of standard size, to hold a given quantity of units

See Part 2: Cans, Equivalent Sizes

casebearer An insect; the adults are gray moths with fringed wings; the larvae are dark and form cases that are cigar- or pistol-shaped, brown or gray, and up to $\frac{3}{8}$ in. long. The larvae make many small holes in buds and leaves.

Control: remove bags and burn

case hardening A crusty, outside layer formed on a food product by heat and chemical action

casei factor See **folic acid**

casein A protein that is coagulated and precipitated from milk by rennin and/or acid to form cheese. A phosphoprotein in milk; major protein fraction of milk; 3% of milk; purest dairy form is low-fat cottage cheese; vitamin-free casein is produced by hot alcohol extraction and is used as a protein basis to study vitamin deficiencies; protein efficiency ratio is 2.5. Time and temperature needed for coagulation are as follows:

Temperature	Time
100°C	12 h
135°C	1 h
155°C	3 min

2.5 lb can be obtained from 100 lb skim milk.

Composition (dehydrated): moisture 8–12%; protein 83–84%; crude fiber 0.2%; fat 0.6–1.5%; ash 2.1–2.2%; pH 4.6 (isoelectric point)

It is clearly associated with calcium. *See also* **calcium caseinate**

See Part 2: Dairy Products, Composition; Glutamate; Milk, Amino Acids; Milk and Milk Products, Vitamin Content; Milk Composition; Milk, Species

caseinate Casein solubilized with an alkaline substance, e.g., sodium caseinate and calcium caseinate. Caseinates improve smoothness and texture of foods.

casein soy peptone agar *See* Part 2: Microbiological Examination of Dairy Products

caserta pepperoni A meat product consisting of 75% pork and 25% beef; it originated in Italy

cashcaval A provolone-type cheese

cashew butter Ground cashew nuts *See* **cashew nut butter**

cashew nut (*Anacardium occidentale*) A hard-shelled kidney-shaped nut used for food and oil; originally from Central and South America; a medium-sized tree that will grow in dryer areas and produces a large, fleshy "apple" below which hangs a single nut; the nut kernel must be roasted and shelled. The apple, or pear, has a tart, pleasant flavor and is used in preserves and beverages; kaju is a fermented liquor made from the cashew apples. Cashew shells contain an oil that is used in varnishes, resins, etc.

1 lb shelled cashew nuts = 4.6 lb, unshelled

1 cup = 5 oz

1 large nut = 2.3 g

1 med. nut = 1.4 g

1 fresh nut = 2.1 g

Composition: moisture 5%; protein 17%; fat 46%; carbohydrate 29%; ash 3%

11-12 med. nuts (2 tbsp) = 100 calories

Roasted in oil, 21 mg Na/cup (140 g)

Dry-roasted, salted, 1200 mg Na/cup (140 g)

See Part 2: Beans, Peas, and Nuts; Fruit Classification; Fruit Storage; Iodine and Saponification Values

cashew nut butter A spread made from ground and homogenized cashew nuts *See* **cashew butter**

cash flow The total funds generated by a firm for covering costs and investment

cashmere A breed of fleece goats native to Tibet; the fleece is used to make cashmere fiber or goods. The goats have a white, black, blue, gray, dark brown, light coffee, or variegated outercoat (moderately long, straight, and coarse) and a white, gray, or tan cashmere undercoat (soft, fine, and nonmedullated, Bradford wool count from the 70s to the 80s). The goats are also milked. Both sexes have horns and beards and are currently found in Kashmir, Inner Mongolia, Tibet, Sinkiang (Xinjiang, northwest China), and Tsinghai Province.

cash price The price in the marketplace for items to be delivered via normal market channels

casigliolo A provolone-type cheese made from cow's milk

casing 1) A membranous case (outer sheath) used to encase sausages and various processed meats; it may be natural or artificial. Colors used in casings are FDA-approved colors.

Hog bung casing grade	Width (in.)	No. pieces per tierce
Export	Over 2 $\frac{1}{8}$	400
Large prime	1 $\frac{15}{16}$ - 2 $\frac{1}{8}$	500
Medium prime	1 $\frac{12}{16}$ - 1 $\frac{15}{16}$	550
Special prime	1 $\frac{9}{16}$ - 1 $\frac{12}{16}$	580
Small prime	1 $\frac{7}{16}$ - 1 $\frac{9}{16}$	600
Skips	1 $\frac{4}{16}$ - 1 $\frac{7}{16}$	700
No. 1 broken shorts export and large primes	Over 1 $\frac{15}{16}$	800
No. 2 broken shorts medium, special, and small primes	1 $\frac{15}{16}$ - 1 $\frac{7}{16}$	1050

Natural casing (small hog casing) grade	Width (mm)
Extra narrow	Under 28
Narrow medium	28-32
Selected medium	32-35
English medium	35-38
Wide	38-42
Extra wide	Over 42

Sheep casing grade	Width (mm)	Length of hank (yd)
Narrow	16-18	100
Narrow mediums	18-20	100
Special mediums	20-22	100
Wide	22-24	100
Extra wide	24-26	100

2) A thin layer of soil covering compost used for growing mushrooms

See Part 2: Casings, Animal; Casings, Hog; Casings, Hog and Beef; Casings, Hog Bungs; Casings, Sheep; Casings, Terms

casitone Pancreatic digest of casein

casitone starch agar *See* Part 2: Microorganism, Media

casizzolu A large, pear-shaped, mozzarella-type cheese made from cow's milk

cask A variable-sized wine container, often made of wood

Casman medium base A noninfusion medium developed for use as a single blood medium instead of fresh blood agar plus chocolate blood plate; used for growth of fastidious pathogens

See Part 2: Microorganism, Media

caspian lamprey (*Caspiomyzon wagneri*) A food fish

caspian roach (*Rutilus rutilus*) A food fish

cassabanana (curuba; *Sicana odorifera*) A fast-growing vine of the cucumber family that produces long, cylindrical, orange yellow fruit

cassareep Concentrated juice of the cassava tuber

cassava (**guacamote**; **mandioca**; **manioc**; **sagu**; **tapioca**, **yuca**; *Manihot utilissima*; *M. esculenta*; *M. aipi*) A woody, South American, tropical plant (originally from Central and South America) from the roots of which starch is extracted. There are a bitter type (poisonous—hydrocyanic acid) and a sweet type; cyanide is released by grating and cooking. A shrub that produces swollen tuberous roots; the tubers are high in starch and low in protein, and must be cooked before eating; the tuber may be made into meal; the starch is extracted and dried, and fermented into liquor.

Types:

Bitter (contains hydrocyanic acid, 0.02–0.03% available HCN)—boiled, fermented, dried to a flour (farinha)

Sweet (0.005–0.01% available HCN)—baked and eaten

The plant is 9 ft tall and matures in 8–16 months; its growth period averages 330 days. The root is boiled or fried, or a beverage is made from its juice; also used in soup or dried for flour or starch; the root ("staff of life") remains usable when left in ground. The leaves are used as a cooked vegetable. Edible energy value 6.3 MJ/kg

1 lb = 3 cups

1 cup = 150 g (5.4 oz)

Composition (tubers): carbohydrate 33%; protein 1%; fat 0.3%

Composition (dried tubers): moisture 13–20%; protein 0.4–0.6%; fat 0.1–0.2%; carbohydrate 86–95%; starch 40%; glucose 30%; tapioca 10%; ash 0.2%

Composition (fresh leaves): protein 4–11%

Composition (dry leaves): protein 20–36%

See also **tapioca flour**

See Part 2: Starches and Starchy Roots, Composition

cassava bread A steamed or baked round, flat bread made from fermented cassava (*Manihot utilissima*) dough

casserole 1) A dish prepared as a mixture of meats, fish, vegetables, flavoring, etc. and baked in a glass or ceramic container, usually with a cover. 2) A cooking dish with a lid and two handles

See Part 2: Microwave Processing Time; Portion Size

cassette (boulette) A semisoft to soft, fermented cheese made from cow's milk; shaped into balls and wrapped in walnut leaves

cassia (*Cinnamomum cassia* Blume) The dried bark (ground or stick form) of the cassia tree, related to the cinnamon tree; used as a spice; essential oil is oil of cinnamon or cassia, containing not more than 5% total ash nor more than 2% acid-insoluble ash; bark, buds, leaves are used for flavoring. Cassia is very similar to cinnamon (different species) in the ground form and the terms are often used interchangeably. Both cassia and cinnamon may be called cinnamon but cassia has a thicker bark and refers to the species that produces a darker, stronger, more pungent-flavored spice (most popular in the United States); protein 3–4%

C. cassia Presl:

Canton cassia

Cassia lignea

China junk cassia

Chinese cassia

Honan cassia

Kwantung cassia

Yunnan cassia

C. burmannii:

Batavia cassia/cinnamon

Cassia vera

Indonesian cassia

Java cassia

Korintji cassia/cinnamon

Macassar cassia

Padang cassia

Timor cassia

C. loureirii:

Annam cassia

Danang cassia

Saigon cassia

Tonkin cassia

Vietnam cassia

C. tamala:

Indian cassia

Producing countries: China; Indonesia; Vietnam

Defect action level (whole cassia): average 5% moldy pieces by weight; average 5% insect-infested pieces by weight; 1 mg excreta per pound

See **cinnamon**

See Part 2: Essential Oils; Flavoring Agents, Natural

cassia bark oil (*Cinnamomum cassia*) A yellow-brown liquid obtained by steam-distillation of cassia bark; contains 60–98% cinnamaldehyde eugenol

cassia bud (*Cinnamomum cassia*) The dried, immature or unripe fruit or flower buds of the cassia tree, used as a spice and in pickling; flavor similar to the combination of cinnamon and cloves. Obtained from the same tree as cassia bark and has a similar flavor.

cassia leaf oil (*Cinnamomum cassia*) A dark brown liquid (cassia oil of commerce) obtained by steam-distillation of the leaves and twigs of cassia; similar composition to bark oil; contains 70–93% cinnamaldehyde

cassia oil A light to dark reddish brown oil obtained by steam-distillation of the leaves and bark of cassia; yellow to yellow-green oil may be obtained on redistillation.

Oil and redistilled oil:

Optical rotation -1° to $+1^{\circ}$

Refractive index 1.602–1.614 at 20°C

Specific gravity 1.045–1.063 g/ml

Storage (oil): full, tight container in a cool, dark place

cassis A sweet liqueur made from macerated black currants in brandy

1. Red, rosé, and white French wines

2. Black currant

3. Alcoholic beverage or flavoring agent made from black currants and brandy

cassoulet 1) A large, dark red, kidney-shaped bean See also **haricot bean** 2) A stew

CAST 1) Council for Agricultural Science and Technology. 2) Calf antibiotic sulfonamide test

Castel del Monte An area in southeastern Italy and the wines produced there:

- Red (dry and tannic)
- Rosé (dark and fragrant)
- White (fresh, well-balanced)

castellblanch A sparkling wine

casteller A rosé Italian wine

castello A sharp cream cheese

castelmagno A strong-flavored blue cheese made from cow's milk

castelo branco A strong, peppery, fermented, semisoft, esbareich-type cheese made from ewe's or goat's milk

caster See **sugar, caster**

cast iron The heaviest metal used for cooking containers. It heats slowly, retains heat well, does not heat as evenly as aluminum or copper; will rust if not seasoned and dried

castle See **schloss cheese**

castle cheese See **schloss**

castor bean (castor-oil plant; christi palma) The fruit (large, flat) or seed pod of the castor plant (*Ricinus communis*); it is not a true bean or a food crop; source of castor oil and other drugs. Both plant and seed contain a poisonous alkaloid; meal can be detoxified and used as livestock feed. Seed—45% oil, 1–3 seed/pod, obovoid-shaped, resembles a bean, mottled, striped, or solid gray-brown color; 46 lb/bu. See Part 2: Oils, Seed and Fruit; Poisonous Plants; Protein Factors

castor cake (castor pomace) Contains 5.4% nitrogen, 1.8% phosphate (P_2O_5), 1% potash (K_2O), and 0.75% lime oxides ($CaO + MgO$)

castor oil The nondrying oil expressed from castor beans (*Ricinus communis*); used as a laxative and in other pharmaceuticals. Used in food as an antisticking agent, release agent, and component of protective coatings.

Flash point 230°C

Iodine number 82–90

Refractive index (15.5°C) 1.479–1.481

Saponification number 175–185

Specific gravity 0.945–0.967

Storage: tight container in a cool place

See Part 2: Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Unsaponifiable Matter

castor oil meal Used as a rather complete fertilizer

castor sugar Granulated sugar refined to a finer grain; 2 cups = 1 lb

castration Removal of the testicles from a male or sex glands from a female. It enhances fattening, i.e. steer, barrow, wether

Desired age: calves, 2 weeks to 2 months; pigs, 3 to 4 weeks; lambs 1 to 2 weeks

Methods: knife (use a fly-repellent, e.g., pine tar, and a disinfectant around wound); elastator (rubber rings); emasculatome (clamp)

CAT Computer-assisted axial tomography

catabolism The process of breaking down or destruction. Release of energy and the burning of materials, a biochemical process of degradation that takes place in the body

Catalana A Mediterranean class of chickens that lays a white-shelled egg

catalase An enzyme that breaks down hydrogen peroxide to water and oxygen

catalyst A substance that speeds up a reaction without undergoing permanent chemical change. Enzymes are organic catalysts. Most catalysts used in industry are inorganic, e.g., metals or their oxides. Nickel is a catalyst for hydrogenation of vegetable oils to solid fats used in cooking, e.g., Crisco.

Catawba 1) A variety of American grape; 2) An amber, full-bodied wine

catchup (catsup; ketchup) 1) A tomato sauce with vinegar, sugar, and spices
1 cup = 275 g (9.6 oz)

Composition: moisture 69%; protein 2%; fat 0.4%; carbohydrate 25%; ash 4%; 155 mg Na/tbsp

Also sauces made from other fruits, vegetables, or nuts (e.g., cranberries, cucumbers, grapes, walnuts)

Storage: After opening, cover and refrigerate.

2) A salty extract of fish, walnuts, mushrooms, and especially tomatoes

See Part 2: Standards, Processed Fruit and Vegetable Products; Tomato and Tomato Products, Composition; Vegetable Composition

catering Preparing and serving snacks and meals for groups of people

caterpillar See **red-humped caterpillar; walnut caterpillar, yellow-necked caterpillar**

catface Occurs wherever tomatoes are grown; affected fruits are malformed and have cellular indentations on their stem.

Control: grow locally recommended varieties

catfish (bullhead; blue channel; channel catfish; dogfish; flathead; fiddler; ocean catfish; sea wolf; wolffish; Ictalurus) A lean fish caught in rivers and used for food; it is scaleless and has catlike teeth. A large class of fish; a few of the more important ones are the following:

Atlantic (*Anarhichas lupus*)

Banded—See **Atlantic wolffish**

Bering wolffish (*A. orientalis*)

Blue catfish (*I. furcatus*)—forked tail, small head, anal fin with more than 30 rays

Blue Sea Cat or Northern wolffish (*A. denticulatus*)

Bullhead (*I. spp.*)

Channel (freshwater) catfish (*I. punctatus*)—forked tail, rounded anal fin with fewer than 30 rays; raised commercially; albino type also available

Freshwater *I. spp.* (synonym, *Pilodictis olivaris*)

Spotted Sea Cat (*A. minor*)

White catfish (*I. catus*)—large head

Other species include the following:

Amiuridae lacustris
Amiurus nebulosus
I. ponderosus
Parasilurus aristotelis
Silurus glanis

Commercially raised channel catfish weigh 1–4 lb and have firm but soft white meat that does not flake, a high fat content (5.2%), and light to moderate flavor.

Small fillets = 0.3–0.4 lb
 Skinned and dressed = $\frac{1}{2}$ lb
 Pan dressed = 5–6 oz

Water quality for growth:

pH 6.5–8.5
 Hardness 20–200 ppm
 Oxygen 3 ppm min.
 Temperature—4 months above 70°F

See Part 2: Minerals, Food

catgut Dried colons of sheep and oxen, split into threads

cathepsin A proteolytic enzyme (proteinase) present in most cells

cathode Negatively charged electrode. 1) Electron-emitting portion of a tube; may be either heated (directly or indirectly) or cold (metallic salt or mercury). 2) Electrode that allows current to leave a vessel

cathode ray A stream of electrons emitted by the cathode of a gas-discharge tube or by a hot filament in a vacuum tube. The electron beams that are used in food irradiation are generated by accelerators and are cathode rays.

cation A positive ion, e.g., Na^+ , Ca^{2+}

cationic Containing a positive charge or charges

catjang See **asparagus pea**

catmint (**catnip**; *Nepeta cataria*) A mint used as an herb. Herbaceous plants whose shoots can be used in salad See **catnip**

catnip (*Nepeta cataria*) A perennial or annual herb that attracts cats; fresh or dried leaves can be brewed to make a tea. See **catmint**

catobolism Complex substance being broken down by living cells to more simple substances

catsup To remove stain from cloth, remove excess catsup, soak for a minimum of 30 min in cool water, wash in warm suds, and rinse; bleach if necessary
 Composition: regular 156 mg Na/tbsp (15 g); low-sodium 3 mg Na/tbsp (15 g)
 See **catchup**

Cattalo A buffalo-bison hybrid

cattle Bovine ruminant animals raised for milk, beef, and work: *Bos taurus*, Europe; *B. indicus*, Indian and Africa; dressing percentage 54.9. Weight at maturity 500–2500 lb; age at puberty 6–9 months; 15–60 females served by one male; 800×10^6 sperm/ml semen; 5 ml semen per ejaculation; frequency of ovulation 20–21 days; duration of estrus 14–18 h; time of ovulation 14 h after end of estrus; gestation period 283 days; one offspring per gestation. The

male is called a bull; female is called a cow. See **beef dairy cattle**; **dual-purpose cattle**

See Part 2: Cattle; Muscle and Body Weight; Reproductive Cycle; Teeth Eruption

catty A weight of tea
 1 catty = $1\frac{1}{3}$ lb avdp.

catupiri A semisoft, mildly acidic smooth cheese made from cow's milk (rennet is used)

caudal Associated with or relating to the tail or coccyx of an animal
 See Part 2: Bone

caudal vertebrae Tail bones located to the rear of the sacral vertebrae; number varies with species and individual animals in the same breed See also **vertebrae**

caudle sauce A sweet rum or brandy sauce flavored with lemon

caul (**mesenteric**; **web**) The membrane enclosing the intestines

caul fat (**omentum**) A loop of fat that supports the stomach and surrounds the viscera See also **web fat**

cauliflower (**heading broccoli**; *Brassica oleracea*; *B. oleracea botrytis*; *B. oleracea capitata*) A sulfur-containing vegetable whose flower is used for food. A single-stem plant with a compact, white head, or curd (there is also a purple type, sometimes called cauliflower broccoli, that loses its color upon cooking), composed of flower buds and surrounded by green leaves (jacket leaves); may be eaten raw but is usually cooked or pickled. Originally from the Mediterranean and Middle East; 9000–14,000 seed/oz; transplant 18 in. apart in rows 30 in. apart; germination period 4–7 days; matures in 100 days.

To cook: Boil or steam 5–25 min or until tender; lemon juice in cooking water will maintain white color; if frying, oil temperature should be 190–196°C (375–385°F). When frozen, it is separated into florets (freezing point 30.3°F).

A slightly granular texture of curd is called ricey; it will not hurt eating quality if surface is compact.

Summer cauliflower (*B. oleracea botrytis*)

Winter cauliflower—broccoli

Types:

Purple, long season (cauliflower broccoli)

Early Purple Head

St. Valentine

White, late season

Dry weather

Vietches Autumn Giant

White, short season

Dwarf Erfurt

Snowball (A; Imperial; X)

Winter cauliflower varieties (maturity after transplanting):

Christmas (early)

Early Pearl (early)

February (mid-season)

Late Pearl (late)

March (mid.-season)

Mayflower

November–December (early)

St. Valentine (late)

Variety (typical varieties)	Maturity (after transplanting)	Plant	Leaves	Curd appearance	Curd color	Use
Burpeeana	Early; 58 days		Long jacket	Round	White	Frozen
Danish Giant (dry weather)	70–80 days			Large	White	
Early Snowball (Snowball)	50–60 days	Dwarf	Med.-green	Uniform, solid, med. size	Ivory white	
Imperial 19-6			Large; cover head			
Purple-headed type (purple head)	Late; 80–85 days	Holds longer	No need to tie leaves to blanch	6.5 in.; loose head	Turns green upon cooking	Frozen (good flavor)
Self-Blanch	Late; 68 days		Curl over head	Large; 7 in.; solid; fine texture	White	
Snow Crown	Early; 53 days	Vigorous	Upright leaves protect curd	Smooth; over 2 lb	White	Cooked; raw; frozen
Snowdrift	60–65 days	Large	Protect curd in early development	Large; free of defects		
Snowflower	Early					
Snow King	55 days	Erect	Short stems	Over 2 lb; compact head	Pure white	
Super Snowball	Early; 55–60 days	Dwarf	Blue-green; protect head	6.5 in.; compact, solid	White	

Grades:

A—white or creamy white

B—slightly gray or brown but turns white when cooked

Composition: fiber 1.2% (cooked), 1.8% (raw)

Refuse: 55% leaves and stalks

100 lb fresh = 12–14 lb, dry

1.5-bu crate = 37 lb

3 qt cauliflower florets (3 med. heads)
= 5 pt, pickled1 part freeze-dried weight
= 11 parts fresh weight2 $\frac{2}{3}$ lb = 1 qt frozen1 lb, fresh = 1 $\frac{1}{2}$ cups
= 2–5 servings

10 oz, frozen = 3 servings

1 med. head, fresh = 13 oz, frozen
= 4 servings

1 serving = 0.5 lb

= 0.25 med. head

1 cup = 105 g (3.7 oz)

1 cup buds = 3.6 oz

1 cup slices = 3 oz

1 cup, boiled, drained = 6.4 oz

1 bud, sweet, pickled = 0.5 oz

Composition (raw): moisture 91%; protein 3%; fat 0.2%; carbohydrate 5.2%; ash 1%; pH 5.6

Storage: in pits or cold cellars; in refrigerator (32°F), in crisper or plastic bag (85–90% relative humidity); use within 3–14 days; frozen (0°F) storage 1 yr

See **pickle**

See Part 2: Cabbage Looper; Calories, Daily Recommendations; Frozen Food Storage; Fruit and Vegetables, Composition; Fruit and Vegetables, Diseases; Frying Time; Iron; Microwave Cooking, Frozen Veg-

etables; Microwave Processing Time; Minerals, Food; Niacin; Nitrate, Vegetables; Organic Acids in Fruits and Vegetables; Phosphorus; Plant Foods, Composition; Planting Density; Portion Size; Riboflavin; Storage; Sugar, Vegetables; Thiamin; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin C

cauliflower, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	4.4	92.9
Protein (%)	15.3	1.1
Lipid (%)	9.1	0.7
Carbohydrate (%)	56.6	4.2
Fiber (%)	1.0	0.07
Ash (%)	14.6	1.1

caustic lime A liming material composed of 85% CaO; each pound has the neutralizing equivalent of 1.5–1.75 lb of CaCO₃ (or approximately this quantity of dolomitic limestone).

caustic potash (KOH) Potassium hydroxide

caustic soda (sodium hydroxide) (NaOH) A strong, alkaline cleaner with high germicidal and dissolving action but with poor deflocculating and emulsifying

150 caustic soda (sodium hydroxide)

power; it is very corrosive and will burn skin; usually available in solutions of various concentrations
See Part 2: Concentration of Commercial Strengths of Acids and Bases; Detergent Properties; Normal Solutions; pH, Standard Solutions; Reagents, Normal Solutions; Sodium Hydroxide Solution

cavdar A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese

caveat emptor "Let the buyer beware." The purchaser buys at his or her own risk.

caveat venditor "Let the seller beware." The responsibility for defective goods lies with the seller.

caviar (caviare) Roe (eggs) of sturgeon (black caviar) or other fish (e.g., bream, carp, catfish or paddlefish, coalfish, codfish, haddock, lake herring, lump sucker, mullet, pike, salmon, spoonbill, tuna, or whitefish); prepared by a special process (maturation and salting); should be labeled to indicate type of fish; red caviar is roe of salmon; pH 5.4

	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Granular	46-57	27	15	0-3	9
Pressed	36	34	17	5	8

Forms:

Beluga—large-grained, from Beluga sturgeon

Bulgua—from large sturgeon

Dried pressed—pressed to remove liquid (keeps longer)

Grainy (dry)—eggs easily separated

Malossol—best quality, made during winter, mildly salted (3-4% salt)

Osetr—from med. to small sturgeon

Paste

Payasnaya—course-grained heavily salted, black caviar damaged in the sieving process

Salted (approximately 10%)

Sevruga—small-grained, from small sturgeon

Type by maturity

Term	Maturity	Curing method
Kegged	Not fully mature	Regular salt
Malossol	Fully mature	Very little salt
Pressed	Overmature	Soft; very small amount of salt; pressed in linen bag

cayenne (*Capsicum frutescens* L.) Pods of the red pepper (*Capsicum*) plant used as seasoning. Extremely "hot," burning taste. Cayenne pepper is hotter and has a duller color than red pepper and is made from different varieties of hot pepper.

1 part freeze-dried weight

= 15 parts fresh weight

See capsicum; pepper (*Capsicum*); pitanga; Tabasco sauce; tobasco

cayo verde A citrus liqueur made with lime

cc Cubic centimeter

CCC **See Commodity Credit Corporation**

CCTI Composite Can and Tube Institute

Cd Symbol for the element cadmium

CDC Centers for Disease Control of the U.S. Public Health Service

CDLB Food Safety and Inspection Service (FSIS), Science, Chemistry Division, Chemistry Division Laboratory Branch, Beltsville, Maryland

Ce Symbol for the element cerium

cebrero A semisoft, mildly acidic, smooth, mushroom-shaped cheese that is made from cow's milk and is matured 3-4 days; a sharp, creamy, slightly blue cheese with a fine texture and yellow rind

cebu A rennet or fermented cheese that is made from buffalo's milk and is soaked in brine and consumed fresh

Cecidomyia viticola A small midge causing trumpet or grape tube galls

Type by fish and location caught

Location caught	Label	Fish	Natural color	Color added
Alaska, Washington state	Salmon, Red	Salmon	Red or orange	Red (most of the time)
Caspian Sea	Russian, Iranian	Sturgeon	Gray-black to black	None
Iceland	Lumpfish	Lumpfish	Tan	Black
United States, Canada, Great Lakes	Whitefish	Whitefish	Tan	Black

cecil A provolone-type cheese

cecum (caecum) An intestinal pouch at the junction of the small and large intestine; blind end section of the digestive tract between the small and large intestine; larger size in nonruminants that utilize forage

cedar 1) An essential oil (cedarleaf oil, thuja oil, white cedarleaf oil) obtained by steam-distillation from the cedar tree (*Thuja occidentalis*); used as a flavoring agent in food

Storage: full, tight, glass container in a cool dark place
2) A tree that is fair for firewood (18×10^6 Btu/cord, 20% moisture), easy to start, and difficult to split and that produces medium smoke, good coals, and many sparks

See Part 2: Essential Oils

cedur nut The nut of various fir and pine trees; it can be eaten raw or roasted and is often mixed with sugar and made into nougat candy.

celans A small (more than 20 fish/kg) sardine

Celebes kalossi A rich, well-balanced, Indonesian or East Indian coffee with piquant aroma and full body

celeriac (celery knob; celery root; knob celery; turnip-rooted celery; *Apium graveolens* var. *rapaceum*) A biennial plant similar to celery, with a swollen base (up to 4-in. diam.); it is celery-flavored and used in salads; the swollen base of the stem is the part eaten as a raw (grated and used in salad), cooked (soups and stews), or pickled vegetable. The tough skin must be removed before eating. 70,000–84,000 seed/oz; 12-day germination time; it is harvested when it has a 2 to 3-in. diam., and it looks somewhat like a light brown rutabaga; the root keeps well and has the flavor of celery with extra nuttiness.

Storage: in colored plastic bag; refrigerate (32°F, 90–95% relative humidity); use in 6 months.

Seed—used as a flavoring

Canned style available—hearts are cut in half and placed in a light brine.

Blanching improves tenderness and palatability (removes bitterness). Pascal celery is tender without bleaching. Place narrow strips in ice water to curl and chill; 60,000–84,000 seed/oz; 12-day germination period; transplant 7 in. apart in rows 24 in. apart; often 120 days to maturity

Varieties:

Green

Beacon

Florida

Fordhook

Giant Pascal—135 days to maturity

Golden Crisp—135 days to maturity

Greenlight or Golden Utah

Yellow (self-blanching)—milder flavor

Cornell-19

Easy blanching—125 days to maturity

Golden—114 days to maturity

Golden Detroit

Golden Plume

Michigan Golden

Summer Pascal (Waltham Improved)

White Plume—113 days to maturity

Type	Aroma	Flavor
French	Sweet, herbal, tenacious, citrus	Bitter, pleasant
Indian	Lemonlike, sweet, herbal, tenacious	Sweet, pleasant, bitter

To cook: Steam or braise 10–16 min or until tender.

Freezing point 31.6°F

Refuse: 35% tops and trimmings

1 crate = 60 lb

7 bunches = 50 servings

Variety	Maturity (days)	Root flesh	Use
Alabaster	120	White; 2 × 4 in.	Boiled, soups, stews raw, stored
Large Smooth Prague; Giant Prague (turnip-rooted celery)	110		

Composition (raw root): moisture 88%; protein 2%; fat 0.3%; carbohydrate 8%; ash 1%

See Part 2: Planting Density; Root-Crop Characteristics; Storage; Vegetable Planting and Maturity Chart; Vegetable Plants; Vegetable Yields

celery (ache; smallage; *Apium graveolens*) A shallow-rooted, biennial vegetable whose leaf stem is used as food

Leaf Stalk—eaten raw or boiled and used as a condiment (in soups, stews, and green salad)

Outer branches and leaves—used in soups and broth, and as a substitute for celery seed;

Root—grated and eaten raw or used as a vegetable (boiled, 20–25 min)

1 part freeze-dried weight = 23 parts fresh weight

1 lb = 2 bunches

1 lb, raw, chopped or diced

= 5–8 servings

= 4 cups, diced and cooked

1 lb, cooked = 4–7 servings

1 med. bunch = 4.5 cups, chopped

1 cup, chopped = 2 med. stalks

1 cup, raw = 40 g

1 cup chunks, raw = 4.2 oz

1 cup slices, raw = 2 stalks

= 3.8 oz

1 cup chunks, boiled and drained = 5.4 oz

1 cup slices, boiled and drained = 6 oz

1 cup, cooked = 150 g

152 celery (ache; smallage; *Apium graveolens*)

Variety	Season	Growth habits	Use
Cornel-19		Self-blanching	
Fordhook	130 days from seed	Green; stocky, compact; 16 in.	Stores well
Giant Pascal	135 days from seed	Green; tall, thick	Fresh; stores well
Golden Detroit	Early crop	Self-blanching	
Golden Plume	Early crop	Self-blanching	
Golden Self-Blanching	118 days from seed	Self-blanching; compact, stringless	No need to blanch; fresh
Green Light	Late crop		
Michigan Golden		Self-blanching	
Summer Pascal (Waltham Improved)	Early crop		
Tendercrisp	105 days from seed	Tall, thick; dark green	Relish
Utah 52-70	Late crop	Green	

1 stalk = 0.5 cups, chopped or thinly sliced
= 25 g

8 × 1.5-in. (roast end) outer stalk = 1.4 oz

1 serving = 0.25 med. to large bunch

Composition (raw): moisture 94%; protein 0.9%; fat 0.1%; carbohydrate 4%; ash 1%; pH 5.7–6.0; 151 mg Na/cup (diced); fiber 3% (raw), 2.4% (cooked)

Storage: In refrigerator (31–32°F), in crisper or plastic bag (90–95% relative humidity); use within 3 days to 2 months.

See Part 2: Essential Oils; Flavoring Agents, Natural; Fruit and Vegetables, Diseases; Minerals, Food; Nitrate, Vegetables; Plant Foods, Composition; Planting Density; Potassium; Rot Spoilage; Soups, Composition; Storage; Sugar, Vegetables; Transit Temperature; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Servings; Vegetable Storage; Vegetable Yields

celery cabbage See Chinese cabbage

celery, cream of, canned soup

Composition	Condensed	Condensed, prepared with	
		Milk	Water
Moisture (%)	85.0	86.5	92.3
Protein (%)	1.3	2.3	0.7
Fat (%)	4.5	3.9	2.3
Carbohydrate (%)	7.0	5.9	3.6
Fiber (%)	0.3	0.1	0.1
Ash (%)	2.2	1.5	1.1

celery, cream of, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	4.6	93.4
Protein (%)	15.0	1.0
Fat (%)	9.3	0.6
Carbohydrate (%)	55.9	3.8
Fiber (%)	1.1	0.1
Ash (%)	15.2	1.0

celery, dehydrated The following types are available (source—California):

Crosscut—from the ribs

Diced and flaked—from both ribs and leaves

Minced and diced—from the ribs

Powdered—from the ribs

celery flake Flaked leaves and stalks of celery that have been dehydrated

celery fly A pest that attacks celery, parsnips, and parsley. The adult fly lays eggs on underside of leaves and these eggs develop into maggots that enter the leaves.

celery knob See celeriac

celery, oleoresin A dark green to greenish black product obtained by solvent extraction of celery seed, containing the following:

Propylene glycol 20.0% max.

Resin 73.5% min.

Volatile oil 6.5% min.

celery salt A mixture of salt and ground celery seed; used in seasoning

celery seed (*Apium graveolens* L.) The tiny ($\frac{1}{16}$ in. long), brown, dried fruit and seed (whole or ground) of a plant related to but not the same as the vegetable, or common, celery; used as a spice (has a pronounced fresh celery flavor); India is the source.

Types: whole; ground (medium grind); celery salt (ground seed mixed with salt)

Used for pickling and in salads and salad dressing

Composition: moisture 6–7% (10% max.); protein 18–19%; fat 25–26%; carbohydrate 41–42%; fiber 11–12%; ash 8–10 (10% max.); acid-insoluble ash 2%; average volatile oil 1.75% (v/w) min.; average non-volatile extract 16% min.

Storage (seed): cool, dark, dry place

See Part 2: Spices, Microbial Content

celery-seed oil A volatile oil obtained by steam-distillation of the seed of *Apium graveolens*; used as a flavoring agent in food; saponification value 35–75; sp. gr. 0.871–0.910

Storage: full, tight, glass container in a cool, dark place

celery root

1 cup, peeled and cut into thin strips = 8 oz

celiac Pertaining to the belly or abdomen; a disease in which fats are not absorbed

celialgia Pain in the abdomen; abdominal colic

cell A unit of living matter. A muscle cell is called a fiber.

cellar, wine Best temperature for wine storage is $55 \pm 6^\circ\text{F}$

cellophane A transparent film made of regenerated cellulose and coated or treated with lacquers or polymers; relatively permeable to air and moisture when wet, less permeable when dry

See Part 2: Frozen Food Containers; Film Gauge

cellular glass A porous glass used as an insulating material

See Part 2: Insulating Value

cellular transformation A normal cell changes to malignant growth by changes in form, structure, or function

cellulose $[\text{C}_6\text{H}_{10}\text{O}_5]_n$ A carbohydrate polymer made up of glucose units joined in the form of long chains; the links are 1 and 4 as in starch, but the linkage to carbon 1 is beta (linear chain) in cellulose and alpha (helical or spiral chain) in starch. It occurs in plants (one-third of all vegetable matter) and is not digestible by humans. Some cellulose derivatives are used as food stabilizers, thickeners, or texture modifiers.

Cellulose content: wood 40–50%; annual plants 35–40%; cotton fiber 98%

See Part 2: Cellulose Formula; Histochemical Test; Wheat, Parts of Grain

cellulose acetate A cellulose ester, used as a packaging material

See Part 2: Plastic Permeability

cellulose gum See **carboxymethylcellulose**

cellulose, microcrystalline (cellulose gel) Purified, partially depolymerized cellulose used as an anti-caking agent, binding agent, tableting aid, disintegrating agent, or dispersing agent

Storage: well-closed container

cellulosics Cellulose material esterified with thermoplastics

cell wall A rather heavy structure in plants that is outside the cell membrane and gives the cell rigidity and strength. It is composed primarily of cellulose.

Celotex A proprietary product made from sugar-cane waste (bagasse) and used as insulating board

See Part 2: Insulation

Celsius Temperature scale also known as the centigrade scale in which one degree is equivalent to $\frac{1}{100}$ the difference between the temperature of melting ice and boiling water at standard atmospheric pressure

celtuce (*Lactuca sativa asparagina*) A vegetable salad plant; young leaves are eaten as lettuce or "greens;" stems (12 inch) are peeled and eaten like celery, raw or cooked. A plant that looks like a cross between celery and lettuce and matures in 90 days

cement A mixture of alumina, silica, and lime (often with sand) that will harden when water is added.

Such mixtures are called hydraulic cements, the water entering into a chemical reaction to form a hydrate. Portland cement is of this type

1 barrel = 4 bags = 376 lb

See Part 2: Insulation, Conductivity Values

c-enamel can coating See **zinc oxide can coating**

cendawen jerami Straw mushroom

cendré A blue-colored cheese, obtained by maturing in wood ashes

cendré d'Argonne A rocroi-type cheese matured in wood ashes

cendré de Champagne A rocroi-type cheese matured in wood ashes

cendré de la Brie Cow's-milk cheese

cendré de l'aisy A soft cheese made from cow's milk with washed rind; matured in ashes from vines

centare A measure of area equivalent to 1 square meter

1 centare = 1550 square inches (in.^2)

centaury A bitter-tasting herb

center Middle point or place

See Part 2: Pork Loin Nomenclature; Pork Yield

center slice A slice cut no more than 1 in. on either side of the center

centi- (one-hundredth; 0.01) A prefix for quantities 100 times as small as the base unit

centigrade ($^\circ\text{C}$) A temperature scale in standard scientific use invented by Celsius and now generally called by his name: boiling point of water = 100°C ; freezing point of water = 0°C

$^\circ\text{C} = \frac{5}{9}(\text{F} - 32)$ $^\circ\text{F} = \text{Fahrenheit}$

$^\circ\text{C} = \text{R}(\frac{5}{9})$ $^\circ\text{R} = \text{Réaumur}$

$^\circ\text{K} = ^\circ\text{C} + 273.15$ $^\circ\text{K} = \text{kelvin}$

$^\circ\text{F} = (^\circ\text{C} \times \frac{9}{5}) + 32$

$^\circ\text{R} = ^\circ\text{C} \times \frac{4}{5}$

See Part 2: Temperature

centigram (cg) A unit of metric weight

1 cg = 10 milligrams (mg)

= 10 cubic millimeters (mm^3) of water

= 0.01 gram (g)

centiliter (cl) A unit of metric volume

1 cl = 10 milliliters (ml)

= 10 cubic centimeters (cm^3)

= 2.705 drams

= 0.6103 cubic inch (in.^3)

= 0.338 fluid ounce (oz; U.S.)

= 0.3382 ounce (oz; 4 g fluid)

= 0.01 liter (l)

centimeter (cm) A unit of metric length

1 cm = 1×10^8 angstroms (\AA)

= 10,000 microns (μm)

= 393.7 mils

= 10 millimeters (mm)

= 0.3937 inch (in.; U.S.)

= 0.01094 yard (yd)

= 10^{-2} meter (m)

= 0.032808 foot (ft; U.S.)

= 1×10^{-5} kilometer (km)

= 6.2137×10^{-6} statute U.S. mile

2.54 cm = 1 in.

30.48 cm = 1 ft

154 centimeter-dyne (cm-dyn)

centimeter-dyne (cm-dyn)

$$\begin{aligned} 1 \text{ cm-dyn} &= 1.020 \times 10^{-3} \text{ centimeter-gram (cm-gram)} \\ &= 1.020 \times 10^{-8} \text{ meter-kilogram (m-kg)} \\ &= 7.376 \times 10^{-8} \text{ pound-foot (lb-ft)} \end{aligned}$$

centimeter-gram (cm-g)

$$\begin{aligned} 1 \text{ cm-g} &= 980.7 \text{ centimeter-dynes (cm-dyn)} \\ &= 1 \times 10^{-4} \text{ meter-kilogram (m-kg)} \\ &= 7.233 \times 10^{-4} \text{ pound-foot (lb-ft)} \end{aligned}$$

centimeter of mercury (cm Hg) A measure of pressure

$$\begin{aligned} 1 \text{ cm Hg (at } 0^{\circ}\text{C)} &= 136 \text{ kilograms per square meter (kg/m}^2\text{)} \\ &= 27.845 \text{ pounds per square foot (lb/ft}^2\text{)} \\ &= 13.595 \text{ grams per square centimeter (g/cm}^2\text{)} \\ &= 0.446 \text{ feet of water at } 4^{\circ}\text{C} \\ &= 0.1934 \text{ pounds per square inch (lb/in.}^2\text{)} \\ &= 0.013158 \text{ atmosphere (atm)} \\ &= 0.013 \text{ kilogram per square centimeter (kg/cm}^2\text{)} \end{aligned}$$

centimeter per second (cm / s) A measure of velocity

$$\begin{aligned} 1 \text{ cm/s} &= 1.9685 \text{ feet per minute (ft/min)} \\ &= 0.6000 \text{ meter per minute (m/min)} \\ &= 0.03600 \text{ kilometer per hour (km/hr)} \\ &= 0.0328083 \text{ foot per second (ft/s)} \\ &= 0.02237 \text{ miles per hour (mi/h)} \\ &= 0.0143 \text{ knots} \\ &= 3.728 \times 10^{-4} \text{ mile per minute (mi/min)} \end{aligned}$$

centimeter per second per second (cm / s / s) A measure of acceleration

$$\begin{aligned} 1 \text{ cm/s/s} &= 0.036 \text{ kilometer per hour-second (km/h/s)} \\ &= 0.03281 \text{ foot per second per second (ft/s/s)} \\ &= 0.02237 \text{ mile per hour per second (mi/h/s)} \\ &= 0.01 \text{ meter per second/per second (m/s/s)} \end{aligned}$$

centipoise (cP)

$$\begin{aligned} 1 \text{ cP} &= 2.4 \text{ pound per foot-hour (lb/ft-h)} \\ &= 0.01 \text{ gram per centimeter-second (g/cm-s)} \\ &= 6.72 \times 10^{-4} \text{ pound per foot-second (lb/ft-s)} \end{aligned}$$

centrifugal force A force exerted outward from the center of gravity

Centrifugal force

$$\begin{aligned} &= 0.00001118(\text{radius in centimeters}) \\ &\quad \times (\text{rpm})^2 \times (\text{no. of times greater than gravity}) \end{aligned}$$

Centrifugal force (gravity)

$$\begin{aligned} &= \frac{(\text{velocity in feet per second})^2}{32.16 \times (\text{radius of circle in feet})} \\ &= 14.2 \times 10^{-6} \times (\text{peripheral diameter in inches}) \\ &\quad \times (\text{rpm})^2 \end{aligned}$$

Centrifugal force (grams)

$$\begin{aligned} &= 1.118(\text{weight in grams}) \times (\text{radius in centimeters}) \\ &\quad \times (\text{rpm})^2 \times 10^{-5} \end{aligned}$$

Centrifugal force (pounds)

$$\begin{aligned} &(\text{weight of body in pounds}) \\ &\quad \times (\text{velocity in feet per second})^2 \\ &= \frac{\quad}{32.16 \times (\text{radius of circle in feet})} \end{aligned}$$

centrifuging Spinning a mixture and using the centrifugal force to separate ingredients of differing densities; used to clarify extracts. Separation by centrifugal force, e.g., separating cream from milk

centriole A division center of a cell; meiotic pole

Centro Internacional de Agricultura Tropical (CIAT) An agricultural research center, located in Columbia, that concentrates on the common bean, rice, beef, cassava, and maize; part of the Consultative Group for International Research (CGIAR)

Centro Internacional de la Papa See **Potato center**

Centro Internacional de Mejoramiento de Maíz y Trigo See **Wheat and Corn Center**

century plant A Mexican *Agave* plant that flowers once and dies

See Part 2: Poisonous Plants

cep (*Boletus edulis*) An edible fungus with a smooth brown cap, white flesh, tinged with pink, and a stout stalk; often 6-in. diam. with a strong flavor; often canned in olive oil or sauce

cepe A species of *Boletus* mushroom; edible fungus

cephalin A phospholipid associated with lecithins in egg yolk and some animal tissues; a compound of fatty acids and phosphorus

cephalopod Octopus; squid

cerasella Cherry brandy

cercospora leaf spot (angular leaf spot) A fungal disease of muscadine grapes; it can be easily controlled by the application of a fungicide

cercospora spot (blotch) An avocado disease caused by *Cercospora purpurea*; small, scattered, slightly sunken, greenish white areas that develop into brown spots that may increase in size to a hard, brown, cracked, dead tissue. The disease does not penetrate the flesh but allows other fungi to do so.

cereal Dry fruit of certain grasses (e.g., barley, buckwheat, corn, oats, rice, rye, and wheat); used in several forms (e.g., flour, flaked, granulated, malted, meal, puffed, and shredded) for making breakfast food, bread, flour, meal, alimentary paste, and starch. Rice and wheat are used primarily for humans, barley and oats for livestock.

1 cup oatmeal or cereal, not puffed

$$= \frac{2}{3} \text{ cup farina}$$

$$= 1\frac{1}{2} \text{ cups dry cereal, popped or puffed}$$

Storage (breakfast-type): at room temperature, in tightly closed containers; inspect often for weevils.

See Part 2: Calcium, Daily Recommendations; Calories, Daily Recommendations; Cereal By-Products, Composition; Cereal Composition; Cereal Enrichment; Cereal Fortification; Cereals, Vitamin and Mineral Content; Cereal, Nutrient Content; Food Guide; Iron, Daily Recommendations; Niacin, Daily Recommendations; Nicotinic Acid, Food; Portion Size; Protein Factors; Riboflavin, Daily Recommendations; Riboflavin, Food; Spoilage, Carbohydrate Foods; Stor-

- age, Dry; Storage, Times; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Food
- cereal grains** Grains used for human food; e.g. wheat, rice, or rye
- cereal leaf beetle (*Oulema malanopus* L.)** An insect; the larvae and adults skeletonize leaves of wheat plants
- cerebellum** The rear portion of the brain that directs coordination of movements
- cerebrum** The front area of the brain that consists of two hemispheres and is responsible for consciousness
- Cerelose** Glucose, prepared commercially from starch
- ceriman** A climbing vine that has a conelike fruit
See Monstera deliciosa
- cerium (Ce)** A rare earth element of the lanthanide series; at. no. 58; at. wt. 104.13; Group IIIB of the Periodic Table; oxidation states +3, +4; electron configuration 2-8-18-19-9-2
orbit K L M N O P
- cero** *See mackerel*
- Cérons** A full, sweet, white wine (between the Graves and Sauternes) produced in the Bordeaux (southwest) region of France
- cerotic acid** $[\text{CH}_3(\text{CH}_2)_{24}\text{COOH}]$ A saturated fatty acid obtained from various waxes
See Part 2: Saturated Fatty Acids
- certificate of origin** A document required by customs officials, identifying the origin of imported goods
- Certified Atlantic** A variety of alfalfa
- Certified Buffalo** A variety of alfalfa
- certified pork** Pork passed by the USDA as being free of trichinae; pork that has been treated by freezing to destroy any possible trichinae; often used in sausage products that will not be cooked during processing
- Certified Williamsburg** A variety of alfalfa
- certosa** A creamy, semisoft, surface-bacteria-ripened, mild-flavored, cheese made from cow's milk
- certosina** A creamy, white cheese made from cow's milk
- cervalat (cervelat; cervelat; cervelat)** 1) A semidry sausage made chiefly from finely chopped beef (or all beef) with a little pork; it is given a heavy smoke and allowed to dry. 2) A batter-type, cooked, smoked, American sausage made from medium- to coarse-chopped beef and pork, usually with little pork (sometimes equal pork and beef) that is fermented and/or dried or semidried, available in links, rings, or large-diameter casings; max. moisture-protein ratio (MPR) of 3.7:1 and dry MPR of 1.9:1 or less
Varieties:
Farmer's—coarsely chopped; straight lengths (smaller casings)
Göteborg—coarsely chopped; salty, heavily smoked
Gothaer—very lean pork, finely chopped and cured
Holstein—coarsely chopped; horseshoe-shaped
Landjaeger—large, frankfurter size but pressed flat, smoked and dried; black appearance
Thüringer—fresh cervelat
See cervelat; summer sausage
See Part 2: Sausage Identification; Sausage, Types
- cervelaatworst** A semidry, uncooked, smoked Dutch sausage made from medium-chopped, medium-seasoned beef and pork that is fermented and stuffed into a pork or artificial casing
- cervelas** 1) A moist, uncooked, unsmoked French sausage made from coarsely chopped, mildly seasoned pork stuffed into a pork casing. 2) A moist, cooked, smoked Swiss sausage made from finely chopped, medium seasoned beef, pork, and veal stuffed into beef, pork, or artificial casings. 3) A garlic sausage with cubes of pork fat
- cervelas à l'Ail** A moist, cooked, unsmoked French sausage made from medium-chopped, medium-seasoned pork that is fermented and stuffed into beef or artificial casings
- cervelas de Lyon** A moist, uncooked, unsmoked French sausage made from medium- or coarse-chopped, mildly seasoned pork that is fermented and stuffed into a beef casing, with truffles under the casing
- cervelas de Strasbourg** A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned beef and pork stuffed into a 30- to 40-mm beef casing
- cervelat (cervelat)** A semidry, mildly seasoned, fermented (pH 4.1–5.1), smoked, uncooked sausage (40–70 mm); also called summer sausage
Composition: moisture 48%; protein 16%; fat 30%; ash 3.7%
See cervelat; farmer's sausage; göteborg; gothaer; holsteiner; landjaeger; thüringer
- cervelat, Irish** A dry, uncooked, smoked Irish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork that is fermented and stuffed into an artificial casing
- cervelatwurst** A dry, uncooked, smoked Australian sausage made from medium-chopped, mildly seasoned beef that is stuffed into artificial casings
- cervera** High-fat, soft, hand-pressed discs of sheep's-milk cheese
- cervical vertebrae** Neck bones in all mammals, numbered from front to back
See Part 2: Bone
- cervicothoracic-humped cattle** A breed of cattle with a cervicothoracic (extends into the neck), muscular hump; evolved from crossing thoracic-humped Zebu (the hump is above the chest) with native cattle found in central China
- cervix** The opening into the uterus from the vagina
- cesium (Cs)** An alkali metal element; at. no. 55; at. wt. 132.91; Group IA of the Periodic Table; oxidation state +1; electron configuration 2-8-18-18-8-1
orbit K L M N O P
- cetoleic** An unsaturated fatty acid occurring in vegetable oils
See Part 2: Unsaturated Fatty Acids
- cetrimide agar** *See Part 2: Microorganism, Media*
- cevacbcici** Grilled rolls of ground meat

156 cevitamic acid

cevitamic acid See **ascorbic acid**

Ceylon moss See **agar-agar**

Ceylon tea Black tea grown on the island of Sri Lanka

Cf Symbol for the element californium

cf. Confer (compare)

CFR (Code of Federal Register) Code of federal regulations, which is a codification of the general and permanent rules published in the *Federal Register* by the executive department and agencies of the federal government

CFTRI Central Food Technological Research Institute

CGIAR See **Consultative Group for International Agricultural Research**

cha 1) A fish sauce. 2) tea

ch'a (bacha; cha; chaa; char; chaw; ocha) Tea

chaa See **ch'a**

chabichou A small, mild, soft, French valençay cheese made from goat's or cow's and goat's milk; shape ranges from a cone to a cylinder. It is aged 1–3 weeks and weighs about 3 oz.

Chablis A region in Burgundy (east-central France) that is famous for dry, fresh, white wine. A dry, full-flavored, white to straw-colored, fruity, French wine

chabris A camembert-type cheese made from goat's milk

Chaetomium See Part 2: Molds, Mycotoxins

chafer See **rose chafer**

chaff The inedible portion of wheat or other grain that remains after threshing. Glumes, husks or other seed covering, and other plant parts separated from seed in threshing

See Part 2: Wastes, Agricultural and Industrial

chai Tea

chain (surveyor's or Gunter's) A measure of length

- 1 chain = 100 links (Gunter's)
- = 66 feet (ft)
- = 22 yards (yd)
- = 20.117 meters (m)
- = 4 rods
- = 0.0125 mile (mi)

10 square chains = 1 acre

chain belt bed The foundation and guide along which a linked conveyor travels

chain, carbon A series of carbon atoms in an organic molecule, connected by single, double, or triple bonds
See also **aliphatic, aromatic, branched chain**

chain pickerel (*Esox niger*) A food fish

chaintre A white French table wine (Burgundy or Anjou)

chak how joo A fried, wheat-flour-dough pie filled with cheese, fish, meat, and sometimes fruit

chakka Yogurt with garlic and salt; used for marinating meat

chal Camel's-milk yogurt

chalazae (chalaza) Strands of coagulated albumin that hold the yolk of an egg in position by attachment to the shell

See Part 2: Egg Structure

chaldron A dry measure; 36 bushels (U.S.) or 32 bushels (Br.) = 1 chaldron

chalef Knife used by the shochet for slaughtering animals

chalk Calcium carbonate (CaCO_3)

chalky A dry, powdery texture or taste

challah A tea bread, rich in eggs but with no fruit

chalybon A Greek wine

chamarro A cooked, smoked sausage made in Guam

chambarand A medium-flavored semisoft cheese

chamberat A dark-colored, light-textured, French variety of Port du Salut cheese

chambertin A red Burgundy table wine

chambery A light, very dry vermouth

chamois (chammy) 1) A soft leather made from the inner layer of sheepskin; formerly from chamois (antelope). 2) An edible, horned, hoofed, ruminant mammal

chamois d'or A camembert-type cheese made from cow's milk

chamomile (camomile; *Anthemis nobilis*; *Matricaria recutita*) An Egyptian herb used as tea
See Part 2: Essential Oils; Flavoring Agents, Natural

chamomile oil Obtained by steam-distillation of the flowers of *Anthemis nobilis* (English) or *Matricaria chamomilla* (German); sp. gr. 0.891–0.911; used as a food-flavoring agent

Storage: full, tight, glass container in a cool, dark place

champagne A white sparkling wine (a restricted name). A blend (cuvée) of wines (10–13% alcohol) from various black and white grapes; a second fermentation in the bottle produces the natural sparkle. Types are brut (driest); extra dry (less dry); sec (sweet); demi-sec (sweeter); doux (sweetest); pink (grape skins removed later in fermentation process)
Grapes and growing areas:

- Black grapes, Montagne de Reims
- White grapes, Côtes des Blancs
- Other vineyards, River Marne valley

Pressings:

- First pressing—best wine
- Second pressing
- Third pressing
- Fourth pressing—more tannin, more color
- Bottle = 24–26 oz
- $\frac{1}{2}$ bottle = 12–13 oz

See also **brut champagne; Chardonnay; dry champagne; pink champagne; wine**

champagne cider A sparkling cider

champagne glass 1 glass = 5 oz

champagne of teas Formosa oolong tea

champana A white-sparkling wine

champenois A cheese made from cow's milk

champignon Mushroom

champoleon A hard, French rennet cheese

chanar (chanra) The fruit of a South American tree; may be eaten raw or used to make an alcoholic beverage

chance cause A factor caused by random variation in the raw material, the equipment, the process, and personnel

chanco A semisoft, mildly acidic, smooth cheese made from cow's milk

chang (chhang) A rice beer

chang aa (Nuban gin) A local gin distilled from sorghum beer

change order Purchaser's written authority to the supplier to modify a purchase order

Changli A black pig with upturned snout and small erect ears, native to Hopeh (Hebei) Province and northeast China

Changshan A prolific, black pig that originated in Chekiang Province, China

chanklich Dried, hard spheres of fermented milk or milk curds with herbs and spices and stored under olive oil

channa ki wari Yellow, dried chick-pea (*Cicer arietinum*) and black gram (*Phaseolus mungo*) balls that are deep-fat fried

channel cat (*Ictalurus punctatus*) River catfish

chanra See **chanar**

Chantecler An American breed of chicken that lays a brown-shelled egg. Varieties; white, partridge

chantelle A creamy, semisoft, mild-flavored cheese made from cow's milk and ripened by surface bacteria

chanterelle (ryzhik; *Cantharellus cibarius*) A yellow, funnel-shaped, edible mushroom (fungus) that is available fresh or dried

chantilly A dessert, served with cream or whipped cream; sweet, vanilla-flavored whipped cream

chantilly sauce A thick cream, white sauce

chao Sufu soybean curd

chao-ching-yu A rice wine

chao-tsiu A rice beer

chaource A soft, rich, large, camembert-type, unpasteurized, French cheese, with a fruity flavor and cylindrical shape, made from whole cow's milk

chap The lower jaw of pig

chapati A flat, round, unleavened, Indian bread

Chapman Stone medium Selective medium for the isolation of staphylococci that uses sodium chloride as the selective agent.

See Part 2: Microorganism, Media

chapon 1) A saltwater redfish (*Scorpaena scrofa*). 2) Bread seasoned with garlic, olive oil, and vinegar. 3) A cube of bread or bread crust that is saturated with olive oil, vinegar, and garlic, that is tossed with a green salad to impart flavor, and that is often removed before serving

chapon à l'ail Bread crust flavored with garlic See **chapon**

chaptalisation The addition of sugar to wine to increase fermentation and the alcoholic content

claquebitou A soft, white cheese made from goat's milk and flavored with garlic and herbs

char (*Scorpaena salvelinus*) 1) Several types of fish ranging from 1 to 30 lb that belong to the salmon family. 2) A freshwater food fish. 3) Red-fleshed trout (*Salvelinus* spp.). 4) River salmon. 5) Great Lakes fish (*Salvelinus namaycush*) See **Arctic char**; **ch'a**

character A property of a wine that is attributed to the area where the grapes are grown

characteristic See **logarithm**

character note The separate taste and aroma properties in a single substance

Charbray A cross of French Charolais ($\frac{3}{4} - \frac{15}{16}$) and Brahman ($\frac{1}{16} - \frac{1}{4}$) beef cattle, white to cream in color See Part 2: Beef and Dual-Purpose Cattle

charcoal A dark, porous fuel (carbon) made by destructive distillation of wood (wood is covered by soil and a slow fire started underneath the mass which drives off volatile gasses and chars the wood); carbon made from animal or vegetable products by incomplete combustion; 6 lb hardwood yields 1 lb charcoal. Various types are lump (odd size just as it comes from retorts) and briquettes (lump charcoal that is ground, mixed with a starch binder, and pressed into blocks of uniform size). 2 lb charcoal for average size grill; 20 min burning required before ready to cook See **carbon, activated**

See Part 2: Insulation, Conductivity Values

charcoal agar See Part 2: Microorganism, Media

charcoal rot See Part 2: Sorghum Diseases

charcuterie The art of preparing meat

chard (leaf beet; leaf chard; seakale beet; silver beet; spinach beet; strawberry spinach; Swiss chard; white beet; white leaf beet; *Beta vulgaris cicla*) Mistakenly called the seakale beet. 1) A beet whose leaf (green, yellow, or red) and stalk are used as food; also, blanched artichoke leaves and cardoon. Young leaves are cooked like spinach, older leaves are used as greens, and stalks are cooked like asparagus; the roots are not edible. 1200 multiple seeds (1-6 plants per seed) per ounce; transplant 12 in. apart in rows 2 ft apart; harvest 50-60 days after planting seed.

To cook: Steam 5-12 min or until tender.

Varieties:

Green leaves and red midribs

Rhubarb

Green leaves and white midribs

Fordhook giant

Large white rib

Lucullus

1 bu (12 lbs), fresh = 8-12 pt, frozen

1 pt, frozen = 1-1½ lb, fresh

1 lb = 2 servings

1 serving = 0.5 lb

Composition: moisture 92%; protein 1.4%; fat 0.2%; carbohydrate 4.5%; 125 mg Na/cup

Storage: Wash and drain well; refrigerate in crisper or plastic bag; use in 1–5 days. 2) Inner leaves of cardoons *See* **seakale beet**; **Swiss chard**

See Part 2: Minerals, Food; Planting Density; Sugar, Vegetables; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Cooking Frozen; Vegetable Yields;

Chardonnay (pineau blanc) 1) A variety of yellowish green grape that is fermented to yield white Burgundy or champagne. 2) A rich, dry, full-bodied white wine *See also* **wine**

charlock *See* **wild mustard**

charlottes A hot or cold bread filled with sweets

charnwood Smoked cheddar cheese that contains paprika

Charolais (Charollais) 1) A French white breed of beef cattle that is known for its growth rate and ability to survive on sparse rangeland. 2) A soft cheese made from cow's and/or goat's milk; may be consumed fresh or matured

See Part 2: Beef and Dual-Purpose Cattle; Gestation Periods

charolles A cheese made from goat's milk

charqui Flat sheets of beef, sheep, llama, or alpaca jerky *See* **jerked beef**

Chartreuse 1) A green, herb liqueur with a high alcohol content. 2) A sweet, yellow, herb liqueur with a low alcohol content

char tsai A slightly hot, pickled vegetable

char siu Roasted, sweet, pork that has been barbecued with spices and honey

chaschol de chaschosis A hard, rennet cheese made from skim milk

chascol A Swiss cheese made from cow's or goat's milk

chashire A cantal-type cheese with waxed or oiled rind

cha-soh kook Vegetable soup

Chassagne-Montrachet A full-bodied, dry, red or white wine

chasseur (hunter style) 1) A tomato-wine sauce with mushrooms, peppers, olives, and garlic. 2) A coarse-chopped salami made from beef, pork, or goat meat. 3) A dry, uncooked, unsmoked French sausage made from coarsely chopped, medium-seasoned beef, pork, and goat (sometimes made with horse or donkey meat), fermented and stuffed into pork or artificial casings

chasseur, à la 1) A sauce. 2) Poultry or game cooked with white wine, mushrooms, and shallots

chasseur sauce A white sauce containing meat glaze, butter, mushrooms, shallots, and parsley

cha sui *See* **chop suey**

château A wine-producing estate

château-bottled Put in the bottle at the chateau where the wine was made

chateaubriand Thick (min. 3 in.) beef; French porterhouse steak; boneless center cut of the tenderloin covered with a small amount of fat

See Part 2: Portion Size

Châteauneuf-du-Pape A dark red, strong wine

chats The tailings or rejects in a mining operation

See Part 2: Fertilizer Materials

chau A rice wine

chaudfroid sauce A brown sauce, made from meat stock and sherry, set with aspic or gelatin; also a white sauce set with aspic or gelatin

chaulmoogra oil A vegetable oil used for treatment of leprosy; composed of glycerides of chaulmoogric and hydnocarpic acids

See Part 2: Fatty Acids and Their Properties

chaumes A cow's-milk cream cheese that has matured and has a yellow-brown rind

chaumont A munster-type cheese made from cow's milk

chaunay A valençay-type cheese made from goat's milk

chaux d'Abel A Swiss cheese made from cow's milk

chau yau A soy sauce that sometimes contains sugar

chavignol Soft, small cheese made from goat's milk

chaw *See* **ch'a**

chayote (chayotli; christophine; chuchu; custard marrow; mango squash; mirliton; vegetable pear; *Sechium edule* swartz) A herbaceous, perennial vine whose fruit may differ in shape (often pear-shaped or round), size (3–8 in. long) and color (white to dark green); has a furrowed surface. The fruit quality is similar to a squash; it has white flesh and contains a single seed, often 2 in. long.

Parts of plant that are used:

Fleshy root (up to 20 lb): used like a yam, sometimes candied

Fruit—cooked (boil 15–20 min until tender; retains firmness) in sauces, puddings, tarts, and salads

Seed—edible in young fruit; boiled or sliced and fried in butter

Young shoots and leaves—used as a vegetable

Fresh fruit (up to 2 lb):

1 serving = $\frac{1}{2}$ large chayote

Composition (raw): moisture 92%; protein 0.6%; fat 0.1%; carbohydrate 7%; ash 0.4%

Storage: in refrigerator, like summer squash

See **vegetable pear**

See Part 2: Vegetables, Classification; Vegetable Storage

CHC Chlorinated hydrocarbons *See* **chlorinated hydrocarbon**

cheat (*Bromus secalinus* L.) An annual weed

checharron Brown lard that is highly flavored

checkerberry An evergreen shrub with a red berry from which oil of wintergreen is obtained *See* **wineberry**

checkerberry extract *See* **wintergreen**

checking The pattern formed when a coating cracks into many small segments

check-off A small amount of money per unit of product is deducted from the proceeds of a farm commodity when it is sold by the first buyer for the purpose of supporting research or promoting sales of that product

checy A cow's-milk cheese

cheddar cheese (American; American cheddar)
An American and English cheese made from cow's milk; it is smooth, white or orange, semihard to hard, aged (mild, medium or mellow, aged or sharp), matured for 3 months to over 1 yr, ripened by bacteria (*Lactobacilli* and *Streptococcus lactis*), and is cylindrical or block-shaped (4–30 kg, often in a red or black wrapper. The cheese is made from pasteurized, inoculated, whole milk (10 lb milk per 1 lb cheese), with rennet added; the curd is cooked at 98–106°F and pressed for 15–20 h; cured at 35–55°F; the cheese is used in sandwiches, cooked, or as a dessert cheese; its shape is often a 13½- to 15-in. diam. cylinder, 10–12 in. high, weighing 40–50 lb.

4 cups, grated = 1 lb

1-in. cube = 6 oz

1 cup, diced = 4.6 oz

1 cup, grated = 3.9 oz

1 cup, shredded = 4 oz

Composition: moisture 39% max. (37% av.); solids contain not less than 50% milk fat; calcium chloride 0.02% max.; protein 22–25%; fat 32–33% (min. 50% in solids or min. 30.5% in cheese); carbohydrate 2%; ash 4%; salt 1.5–2% (regular 176–240 mg Na/oz; low-sodium 6 mg Na/oz); calcium 0.7–0.75%; pH 5.9
Natural:

1 oz = 115 calories

1-in. cube = 70 calories

½ cup, grated (2 oz) = 225 calories

USDA grades:

U.S. Grade AA

U.S. Grade A

Other cheddar types:

Colby (softer body, open texture, milder flavor)

Monterey Jack (white, higher moisture, soft, open texture)

New England and Vermont (traditionally white)

Stirred or granular curd (more open texture)

Washed curd (higher moisture, bland flavor)

Storage: Wrap tightly and refrigerate; will keep several months unless mold develops (it can be cut off). Can be frozen (0°F) if no more than 1 in. thick; use within 6 months.

See Part 2: Cheese Characteristics; Cheese Composition; Cheese, Vitamin Content; Food, Composition; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Food; Vitamin A, Milk and Milk Products

cheddar cheese, sharp The original apple-pie cheese

cheddar, English An "all-purpose" cheese that has a rich, nutty taste and a creamy texture

Types:

Mature (stronger flavor)

Mild (nutty, bland flavor)

cheedam An edam-type cheese

chee-fan Small cubes of sufu that are cured and aged in wine

cheek meat Meat from the jaw area, used in sausage; 5 lb cheek and head meat per 1000-lb steer

Cheerios A ready-to-eat cereal made by General Mills
1 cup = 0.8 oz

Composition: sugar 3%; 330 mg Na/oz

cheese 1) A food made from milk (from many kinds of mammals); pressed curds, obtained in several ways: casein with some of the fat and some of the salts separated by rennet from milk; from the concentrated curd of milk; obtained from milk by coagulating (with an enzyme or acid); separating most of the milk solids from the milk by curdling with rennet, bacterial culture, or both; the curd is separated from the whey by heating, stirring, and pressing; fermented milk in which the protein is formed into curds (fresh soft cheese), may be pressed to make harder and matured for various lengths of time to intensify flavor.

Essential processing steps:

1. Adjust temperature to 86–96°F.

2. Add starter culture (lactic acid and flavor-producing varieties).

3. Color may be added or removed.

4. Add rennet when proper acidity is reached.

5. Culturing or ripening, usually 15–90 min

6. Curd is cut.

7. Stir.

8. Heat.

9. Remove curd from whey.

Ten pounds of milk are required to make 1 lb of cheese. In surface-ripened cheese, microorganisms are added to the exterior of the cheese.

Types of cheese:

Amount of moisture

Semihard

Soft

Extent of ripening

Mild

Strong

Fermented

Hard

Soft

Fermented curds—fresh; eaten soon after manufacturing

Hard (American, edam, Swiss)—pressed and salted

Kind of ripening

Bacteria

Mold

Scalded curds

Semihard (brick, Roquefort)

Soft (cream cheese, camembert, cottage cheese)—not pressed and salted

Categories:

Cooking

Grating (parmesan, romano)

Eating

Blue-veined (gorgonzola, roquefort, stilton)

Chèvre (goat)—strong flavor

French creamy (cottage cheese, cream cheese, neufchâtel)

Processed (American cheese, canned cheese, cheese spread)

Semihard (cheddar, Swiss)

Semisoft (monastery cheese)

Soft-ripened (brie, camembert, double- and triple-crèmes)—oozes at room temperature

The USDA grade "Quality Approved" is used for cheeses that have no official grade standards. Cheese grading considers the following qualities: body, color, finish and appearance, flavor, and texture.

Flavors:

Mild—aged 1–2 months

Mellow—aged 2–6 months

Nippy—aged 6–12 months

Sharp—aged over 12 months

Degree of flavor: mild, or current-aged; mellow, or medium-aged; sharp, or aged

To serve: Let stand covered 30 min at room temperature for full flavor (2 h for spreading)

4–4½ cups grated cheese per pound

4 oz cheese = 1 cup, shredded

1 cup, grated = 110 g (4 oz)

Composition: cholesterol 24–28 mg/oz; pH 4.8–6.4

Storage: After opening, cover (65–70% relative humidity) and refrigerate (35°F); will keep for several weeks; longer holding will result in additional curing and a sharper flavor; natural cheese can be frozen for 6 weeks to 2 months.

See also **club cheese**; **coldpack cheese**; **coldpack cheese food**; **comminuted cheese**; **cured (cheese)**; **natural cheese**; **pasteurized process cheese**; **pasteurized process cheese food**

2) Ground apples in a press cloth, used to make cider
See Part 2: Animals Foods, Composition; Calcium, Daily Recommendations; Calcium Equivalents for Milk; Calories, Daily Recommendations; Cheese Characteristics; Cheese Composition; Cheese Grade Stamps; Cheese Label; Cheese Shield; Cheese Skipper; Cheese, Vitamin Content; Cholesterol Control; Dairy Products, Composition; Glutamate; Microbiological Standards, Dairy; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Minerals, Food; Portion Size; Riboflavin, Daily Recommendations; Riboflavin, Food; Spoilage, Protein Foods; Stabilizers, Thickeners; Storage Times; Thiamin, Food; Vitamin A, Daily Recommendations; Vitamin A, Food; Vitamin A, Milk and Milk Products; Vitamin D, Food

cheese, American See **cheddar cheese**

cheese, appetizer For example, boursin, brie, colby, mild cheddar

cheese, blue See **blue**

cheese bread See **bread, cheese**

cheeseburger Composition: 709 mg Na/burger (111 g)

cheesecake One of many varieties of cake that contain cheese

cheese, cheddar See **cheddar cheese**
See Part 2: Cholesterol Control

cheese cracker See Part 2: Fermented Ingredients

cheese, cream See **cheese**; **cream cheese**

cheese, curd 2 ounces per serving

cheese dog (Cheeze Dog) A cheese center surrounded by a frankfurter emulsion

cheese food A mixture of cheese, milk solids, and other homogeneous ingredients; a processed cheese made from cow's milk, with added cream or whey

Composition: 337–440 mg Na/oz

Storage: After opening, store in refrigerator and use within 1–2 weeks

cheese, fruit See **fruit cheese**

cheesefurter (cheese smokie) 1) A frankfurter-type product made with pork and placed in a casing with sufficient cheese to give a definite characteristic cheese taste, or cheese mixed with a meat emulsion. 2) A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned beef, pork, and veal with cheese stuffed into pork, sheep, or artificial casings. A batter-type product available in medium-to large-diameter links or large-diameter casings for slicing. (Contains max. 3.5% additives exclusive of cheese, 10% added moisture, 30% fat)

Composition: moisture 52.5%; protein 14%; fat 29%; carbohydrate 1.5%; ash 3%

cheese grade U.S. Grade AA has a fine, pleasing flavor, a smooth, compact texture, a uniform color, and an attractive appearance

cheese, grating Any hard-ripened cheese that is ground, grated, or shredded and dried; used as a condiment; e.g., asiago, parmesan, provolone, romano

cheese, lactic Cheese made by pasteurizing and inoculating whole milk

cheese mite A pest that feeds on hams and cheese; it is a white, 1/32-in.-long, crawling insect and the food that it feeds on becomes powdery

cheese mold Mold on cheese usually does not hurt the cheese, just trim it off.

cheese, natural Cheese made from milk with no further processing

Classes: unripened, soft-ripened, semisoft-ripened, firm-ripened, very hard ripened, mold-ripened

cheese, potted Cheese mixed with butter and sometimes herbs and/or wine

cheese, process See **process cheese**; **process cheese food**; **process cheese spread**

cheese, salami A moist, cooked, unsmoked Australian sausage made from medium-chopped, medium-seasoned beef with chunks of cheese, stuffed into artificial casings

cheese sauce

Composition	Carbo-					
	Moisture (%)	Protein (%)	Fat (%)	hydrate (%)	Fiber (%)	Ash (%)
Dehydrated	4.1	22.7	25.4	33.7	0.1	14.1
Prepared with milk	77.4	5.7	6.1	8.3	0.01	2.4

cheese skipper See **ham skipper**
See Part 2: Cheese Skipper

cheese soufflé A foamy omelet made with eggs and white sauce and flavored with cheese

cheese soup, canned

Composition	Condensed	Condensed, prepared with	
		Milk	Water
Moisture (%)	77.1	82.4	88.1
Protein (%)	4.2	3.8	2.2
Fat (%)	8.1	5.8	4.2
Carbohydrate (%)	8.2	6.5	4.3
Ash (%)	2.3	1.5	1.2

cheese spread A processed cheese made from cow's milk, that has been heated to 87–90°C

Composition: 381 mg Na/oz

Storage: After opening, cover and store in refrigerator; use within 1–2 weeks

cheese, white brined A white, salty, hard or crumbly cheese, made from sheep's, goat's, or cow's milk, that is stored in a salt brine and whey mixture

Cheeze Dog See **cheese dog**

chefoo A white or red wine

chela The claw of a crustacean, e.g., crab or lobster

chelate (claw) A structure in which an organic compound attaches to a metal ion

chelsea bun A yeast bun containing fruit, currants, and butter, sprinkled with coarse sugar crystals

chemical acidulant An additive used to increase the acidity of a product to which it is added

chemically pure (CP) A grade of chemical purity that is suitable for routine use; CP indicates absence of any detectable impurity

chemical migration Movement of chemicals from packaging material into food. These chemicals are considered as an additive by the Food and Drug Administration and are subject to regulatory control

chemical oxygen demand (COD) A test to measure the total organic matter that can be oxidized by a strong oxidizing agent (e.g., potassium dichromate)

chemical poisoning Poisoning due to the presence of a toxic substance in the body, resulting from ingestion, inhalation, or skin absorption

See Part 2: Chemical Poisoning

chemical score (of a protein) The content of each essential amino acid in a food protein is expressed as a percentage of the content of the same amino acid in the same quantity of a protein selected as a standard. The amino acid showing the lowest percentage is called the limiting amino acid; this percentage is the chemical score.

chemical swell Swelling of a can gas produced in the can by the action of food on the container (hydrogen) or by the decomposition of food (carbon dioxide). No viable organisms can be found.

chemiclearance The concept that foods of similar chemical composition irradiated under similar conditions will generate radiolytic products similar in type and extent and for regulatory purposes can be treated generically

chemise, en Unpeeled, boiled potatoes

chemoreceptor Reception organs that respond to chemical stimuli, e.g., taste buds, olfactory nerve

chemotherapy Treatment by chemicals that will inhibit or kill an etiologic agent but that will not harm the host in the concentrations used

chemotrophs Animals that rely upon oxidation of chemical compounds for an energy source

chemurgy Utilization of agricultural and farm wastes for fuel or industrial use. Conversion of manure to methane is under experimentation; bagasse and corn cobs are used locally for boiler fuels. There is growing interest in this field for energy sources

chenchalok 1) A fish sauce made with shrimps (*Mysis*). 2) A spicy pickle made from onions, salt, and pepper and added to shrimp

chendol A drink made of rose-colored syrup and containing cooked rice, flour, peas colored green with a pandanus leaf, passion fruit seeds, and condensed milk; poured over shaved ice

Chenhwa A black and white pig with drooping ears from Szechwan Province (Sichuan, central China)

chenin blanc A soft, delicate, fresh, and not too dry, white wine

Chenopodiaceae The goosefoot family of plants having utricular fruit

See Part 2: Vegetables, Classification

cherimoya (vegetable ice cream; *Annona cherimola*) A highland, tropical, small tree that produces a large (up to 16 lb), acid, sweet, green (also green when ripe), heart-shaped fruit with a flavor like pineapple, strawberry, or banana, juicy white pulp, and a custardlike center surrounding many smooth, dark seeds that can be removed with a spoon, and that has a scaly surface See **annonaceous fruit; custard apple**

See Part 2: Fruit Composition

chernas See **grouper**

cherreton de Mâcon A valençay-type cheese made from goat's milk

cherry (*Prunus*) A tree that produces a thin-skinned, shiny fruit with juicy flesh; it contains one stone (one-seeded drupe); the cherries are in clusters on relatively long stalks; originally from central Asia. The rootstock is generally mahaleb (most common) or mazzard; bearing age 2–7 yr; average yield 25–80 lb/tree; useful life 10–20 yr; five spray applications; fruit needs protection from 6 weeks; fruit is picked with stems (for use locally as fresh fruit) and shipped without stems (for canning and freezing). Cherry-stones contain prussic acid.

Sweet-ripe color;

Bing—deep maroon

Black Republican—black

Black Tartarian—black

Chapman—deep maroon

Lambert—dark red

Napoleon (Royal Ann)—light yellow

Schmidt—deep maroon

Windsor—dark black

Dessert, or sweet (*P. avium*):

Bigarreus (hearts)—firm, sweet; light and dark skin

Bing

Type	Name	Use
Bird Dalmatian (small fruit)		Flavoring rum Maraschino liqueur
Sour (<i>P. cerasus</i>), or cooking (acid; tart; lighter red and softer than sweet cherries)	Amarells (pale red, sharp); Damascas (small, bitter); Flemish; Griottes; Kentish red; Morello (black or dark red, acid)	Baking, cooking, dessert, distilling, jam, liqueurs, maraschino
Sweet (<i>P. avium</i>), or table	Duke (May Queen); Gean (guignes); Heart (bigarreaus firm, black or white mazzard)	Fruit

Type	Variety	Pollination	Ripens	Fruit		
				Color	Size	Quality
Bush	Hansen's (<i>P. besseyi</i>)	Two or more needed; 4-5 ft tall		Black		Jam, jelly
	Nanking (<i>P. tomentosa</i>)	6-8 ft tall		Red	0.5 in.	Eating, jam
Duke*	Brassington	With sweet	Early	Red	Low yield; med.	Closer to sweet
	Reine Hortense	With sweet	Midseason	Light red	Large	Sweet, soft, poor keeper
	Royal Duke	With sour	Late	Dark red	High yield; med.	Sour
Sour†	Early Richmond (Kentish; May Pie)	Self-fruitful	Early	Light red; white flesh; firm	Small-med.	Fair
	English Morello	Self-fruitful	Late	Almost black; red flesh; red juice	Low yield; med.	High in sugar and acid (tart); good
	Montmoureny (most popular)	Self-fruitful	Midseason, July	Bright red; white flesh; firm	Large; high yield	High; rich flavor; fresh, pies, preserves
Sour Dwarf	Shook	Cross-pollination	Early	Deep red	Med.	High
	Meteor		Midseason	Light; bright red	Med. small	High; mildly acid; sauces, pies, dessert
Sweet‡	North Star		Midseason	Dark red	Small-med.	Med.
	Bing	Cross-pollination	Midseason	Dark red-black	Large	High; firm
	Black Tartarian (most popular)	Cross-pollination	Early	Purplish black	Med.	Good; soft
	Emperor Francis			Pink-yellow	Large	
	Gold	Cross-pollination	Late	Light yellow	Small	Ideal for dipping
	Hedelfinger	Cross-pollination	Late	Dark purple-black	Heavy yield	Canning
	Napoleon (Royal Anne; bigarreau type)	Cross-pollination	Midseason	Light yellow; pink blush	Large	High; firm
	Rainier	Cross-pollination				
	Schmidt	Cross-pollination	Mid.-late	Dark red-black	Large; firm	High; firm
	Seneca (heart type)	Cross-pollination	Very early	Red	Med.	Good; soft
	Van	Cross-pollination	Late	Dark red		High; firm
	Vega	Cross-pollination	Early	Light yellow; red blush	Large	For brining
	Victor	Cross-pollination	Early	Light; pink blush	Med.-large	Firm
	Windsor (bigarreau type)	Cross-pollination	Med.-late	Dark black	Med.-firm	Firm
	Yellow Spanish	Cross-pollination	Midseason	Yellow; pink blush	Small	Good

*Hybrid between sweet and sour does not ship well

†Tart; used in pies

‡Heart tender (heart-shaped, soft-fleshed, good flavor); bigarreau (round, firm)

Dessert, or sweet (cont.)

Queen Anne

White and Black Hearts

Geans (guignes)—sweet, tender, juicy; dark flesh;
light and dark skin

Black Tartarian

Elton Heart

Frogmore

Sour (*P. cerasus*):

Amarells—red flesh

Morellos—black flesh

Duke:

Hybrids between sweet and sour cherries; light and
dark flesh; use for dessert, cooking, brandy

May Duke

Royale

Varieties available canned (color and styles):

Sour—pitted, in syrup; pitted, in water

Sweet

Black Bing (purplish black)—pitted, in syrup;
pitted, in water; unpitted, in syrup

Lambert (black)—pitted, in syrup; pitted, in wa-
ter; unpitted, in syrup

Royal Anne (white with red cheek, turns brown
on cooking)—pitted, in syrup; unpitted, in
syrup; unpitted, in water

Pitted means not more than 1 pit/20 oz

Canned styles available:

Dark (often used for cherry jubilee)

Pitted

Maraschino (cocktail cherries)—flavored and arti-
ficially colored sweet cherries with pits removed;
with or without stems

Red tart or pie cherries

In water

Ready-to-use pie filling mix

Sweet

Light (most are Royal Anne)

Not pitted (most)

Pitted

Drained weight of cherries:

No. 1 can 10.5 oz

No. 2 can 12–13 oz

No. 2½ can 18–19 oz

No. 10 can 68–72 oz

Composition: Vitamin A 620 IU/100 g; ascorbic acid 8
mg/100 g; fiber (pitted) 1.1%

	Moisture (%)	Pro- tein (%)	Fat (%)	Carbo- hydrate (%)	Ash (%)	pH
Sour	84	1	0.3	14	0.5	3.1–4
Sweet	80	1	0.3	17	0.5	3.5–4.4

Type	Count in no. 2½ can		
	Fancy	Choice	Standard
Black	100	115	155
Royal Anne	80	95	110

Refuse: pits 5–6%

Not pitted:

1 case (24) No. 2½ cans = 0.023 ton fresh cherries

1 bu, fresh = 56 lb

= 36–44 pt, frozen

1 crate, fresh = 24 qt

= 45–55 lb

= 18–22 qt, canned

1 (25-lb) lug = 22 pt, canned

1 crate, 16-qt chip box = 22 lb

1 lug (4.1 × 11.5 × 14 in.) = 16 lb

1 pt, frozen = 1.25–1.5 lb, fresh

20 oz, frozen = 4–5 servings

1½ qt, fresh = 1 qt, canned

1 lb, fresh = 4–7 servings

= 4 cups

1 lb = 120 med. cherries

6–8 cups, fresh = 1 qt, canned

2–2.5 lb, fresh = 1 qt, canned

1 qt, fresh = 2 cups, pitted

= 1 lb, frozen

= 6 servings

1 pt, frozen = 1.25–1.5 lb, fresh

1 serving = 0.5 cups

Pitted:

1 bu, fresh = 56 lb = 25 qt, canned

1½–2½ lb, fresh = 1 qt, canned

1½–2 qt, fresh = 1 qt, canned

1 lb, fresh = 2½ cups

1 lb, pitted = 1 qt

= 3 servings

1 cup, pitted = 5.4 oz, fresh sour

= 5.8 oz, fresh sweet

1 cup, canned, pitted, heavy syrup

= 9.2 oz, sour

= 8.4–8.6 oz, sweet

1 cup, canned, water-pack, pitted, solids and liquid

= 8–8.6 oz, sour

= 8.8 oz, sweet

1 cherry, pitted = 7 g

Storage: Keep whole, unstemmed; uncovered (85–90%
relative humidity), or can be covered if moisture loss
is a problem; unwashed; refrigerate (31–32°F); use
within 1–10 days; freezing point 24–28°F

See **chokecherry**; **wild cherry**

See Part 2: Calories, Daily Recommendations; Canned
Yield; Cherries, Canned Weights; Cherry Brix; Cherry
Composition; Flavor Ingredients, Taste and Flavor
Type; Flavors, Beverage; Frozen Food Storage; Fruit
and Nut Rootstock; Fruit and Vegetables, Composi-
tion; Fruit, Availability; Fruit Harvest Dates; Fruit
Classification; Fruit Composition; Fruit, Cooking;
Fruit Frozen Yield; Fruit, Growing Season, Storage
Life; Fruit Sauces; Fruit Servings per Pound; Fruit
Storage; Minerals, Food; Organic Acids in Fruits and
Vegetables; Plant Foods, Composition; Standards,
Processed Fruit and Vegetable Products; Storage;
Sugar, Fruit; Transit Temperature; Vitamin A; Wine,
Sweet

cherry, acerola See **acerola cherry**

cherry, American (*Prunus*) An astringent cherry
that grows on a bushlike tree

cherry brandy A dry to sweet liqueur flavored with
cherry or cherry kernel

cherry, candied (glacé cherry)

1. Royal Anne cherries are repeatedly cooked in col-
ored syrup until saturated with sugar.

2. Drained

164 cherry, candied (glacé cherry)

3. Dried

1 cup, red or green = 6 oz

See **candied fruit**

cherry, canned In addition to cherries, may also contain natural and artificial flavors, spice, vinegar, lemon juice, or organic acid

	Percentage of sucrose in syrup	
	Sweet	Red Tart
Extra light	< 16	< 18
Light	16–20	18–22
Heavy	20–25	22–28
Extra heavy	25–35	28–45

Varieties:

Maraschino (cocktail cherry)—sweet cherry; artificially colored; flavored syrup; pits removed; with and without stems

Red tart (pie)—pitted; packed in water; ready-to-use pie filling mix

Sweet

Light (Royal Anne)—usually not pitted (some pitted)

Dark—usually pitted

cherry dessert See **cherry, maraschino**

cherry doktor A red dessert wine

cherry flavoring Essential oil of sweet cherry mixed with bitter almond oil, synthetic flavor, alcohol, and water

cherry fruit fly The adult is black with yellow bands around the body and wings marked with dark bands; about one-half the size of a house fly. The maggot is white and legless, up to $\frac{1}{4}$ in. long; host plants are sweet and sour cherries.

Damage: Adult female lays eggs in the fruit. Larvae feed on the cherry flesh, beginning near the pit, making the pit separate from the pulp, which looks decayed.

Control: spray

cherry fruit worm The adult is a small, grayish black moth with a wing span of about $\frac{1}{4}$ in. The larva is a whitish pink worm with a black head; up to $\frac{3}{8}$ in. long.

Damage: Larva bores into fruit and feeds on pulp

cherry gum A gum similar to arabic exuded from *Prunus* species

See Part 2: Pentosans

cherry herring A cherry brandy

cherry jam Jam made from cherries

Defect action level: average microscopic mold count of 30%

cherry, Jamaica The fruit of a West Indian fig tree

cherry juice Juice extracted from sour cherries and sweetened with sugar

cherry laurel A toxic plant of the cherry family See also **bay leaves**

See Part 2: Poisonous Plants

cherry leaf spot A disease caused by a fungus that affects the leaves (causing small purple spots, which later turn brown and then yellow, and then the leaves

drop) and petioles of cherry trees

Control: fungicide spray

cherry, maraschino (dessert cherry) A Royal Anne cherry that is processed in the following manner:

1. Picked before ripe (before red cheek appears)
2. Placed in brine
3. Bleached with sulfurous acid or sulfur dioxide
4. Stemmed and pitted
5. Washed
6. Put in syrup of increasing density
7. Artificial red or green dye added
8. Artificial flavor added
9. Packed in syrup

cherry pie Composition:

$\frac{1}{8}$ of 9-in. pie = 310 calories
= 169 mg Na/ $\frac{1}{8}$ pie (71 g)

See Part 2: Baked Products, Frozen Storage Life

cherry pie, frozen No artificial sweeteners may be used; not more than 15% cherries may be blemished

cherry rocher A cherry brandy

cherry salmon (*Oncorhynchus masou*) A food fish

cherry sauce A fruit sauce made from cooked sweet or sour cherries and sugar; sometimes cinnamon, nutmeg, or grated lemon rind is added.

cherry slug See **pear slug**

cherrystone A small, hard-shelled clam See also **clam**

cherry, Surinam A dark red, 8-ribbed, acid, slightly bitter fruit (1-in. diam.)

cherry, sweet

1 cup, dark or light = 0.3 lb

See **cherry**

cherry tomato See **tomato**

cherry, wild A subtropical fruit with sour, purple skin and sweet, maroon flesh

cherry wine A cherry brandy

chervil (sweet cicely; *Anthriscus cerefolium* L. Hoffm; *Chaerophyllum tuberosum*) A small, parsnip-rooted (parsley family), annual or biennial herb with delicate, white flowers and a root that looks like a brownish carrot with yellow flesh, used like carrots; it has a parsleylike flavor and a taste slightly suggestive of licorice; its leaves are used whole or ground; curled leaves used fresh for salads and soups and garnishing. Matures in 80 days and should be used fresh.

Types: salad chervil; turnip-rooted chervil

Varieties: curled leaf; straight leaf

Composition (fresh): moisture 81%; protein 3%; fat 1%; carbohydrate 12%; ash 3.5%

Composition (dried): moisture 7–8%; protein 23–24%; fat 3–4%; carbohydrate 49–50%; fiber 11–12%; ash 16–17%

See Part 2: Planting Density

chervil, bulbous A biennial plant with an aromatic, tuberous root

cheshire cheese (chester cheese) A full-cream, hard pressed, cow's-milk cheese made in England; it resembles cheddar and when aged it has a sharp flavor; 45% fat on a dry-weight basis; there are red,

white, or blue versions; used in salads, sandwiches, dessert, and in cooking. It is made from whole pasteurized and inoculated milk, with rennet added, that is scalded, textured, and pressed; aged 12–18 months

Types:

Blue (matured)

Red (colored with annatto)

White (pale yellow)

Composition: moisture 37–38%; protein 23–24%; fat 30–31%; carbohydrates 4–5%; fiber 0%; ash 3–4%

See Part 2: Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

chester cheese See **cheshire cheese**

Chester White A meat-type breed of hog originating in Southeastern Pennsylvania from a number of local strains; solid white with a drooping ear

See Part 2: Swine Breeds

chestnut [marron; sweet, or Spanish, chestnut (*Castanea sativa*; *C. crenata*; *C. dentata*; *C. mollissima*; *C. vesca*)] 1) A hard-shelled nut enclosed in prickly burs; requires cooking before eating (*C. sativa*) and may be dried or made into flour

Types:

American—destroyed by bark parasite

Australian (Moreton Bay)

Chinkapin—small tree or shrub

Japanese

Oriental (primarily Chinese)—blight-resistant

Spanish (Sweet)

Available forms: sweet; pureed; glazed with sugar; fresh; dried

See **sweet chestnut**

2) *C. vesca*—because of its tannic acid content, should not be eaten raw but should be boiled or roasted. It may be substituted for potatoes or grain and can be ground into flour (15% sugar) that can be used in making bread.

Variety	Blight resistance	Tree characteristics	Nut
Chinese	Resistant	Rapid growth; 35 ft tall; hardy	Sweet

To remove the skin:

Roast—Cut an X on the flat side; apply medium heat (400°F) for 15–20 min; peel while warm.

Oven—Cut an X on the flat side, bake at 400°F for 15 min; peel while warm.

Boil—Cut an X on the flat side; boil for 5 min; cover with lukewarm water; peel while warm.

Dried chestnuts yield 24% refuse.

1 lb, in shell = 2 cups of shelled meat

Storage: Refrigerate (storage life 6 months) or freeze (storage life 12 months)

3) A horny growth on the inside of a horse's leg. 4) A sorrel (reddish brown) color of horses

See Part 2: Minerals, Food; Pulses, Nuts, and Seeds, Composition

cheveux d'ange 1) Good vermicelli. 2) Shredded carrots seasoned with sugar and vanilla and used as a filling for tarts

Cheviot 1) A medium-wool, mutton-type breed of sheep originating in Scotland; its face, ears, and legs are white and have no wool. 2) A mild-flavored cheddar cheese with chopped chives

See Part 2: Sheep Breeds

chevon The flesh of goats

chèvre A cheese made from 100% goat's milk, covered with mold; curd is close and white, and flavor is mild; minimum of 45% fat

1 cup, crumbled = 6 oz

See also **cheese**

chèvre à la feuille A goat's-milk, camembert-type cheese that is matured for 2 weeks between vine or tree leaves

chevret (chevreton) A soft cheese made from goat's milk

chevreton d'ambert A valençay-type cheese made from goat's or cow's and goat's milk

chevrette A semisoft, double-cream, garlic- and herb-flavored cheese made from goat's milk and covered with white mold

chevrotin A French cheese made from goat's milk

chevrotton de Mâcon A cheese made from goat's milk

chevru A sharp-flavored, camembert-type cheese made from cow's milk

chewing gum A sweetened, flavored gum that is chewed to obtain flavor

1 stick = 3 g

Composition: chicle gum (latex of sapodilla) 17–30%; glucose 46–59%; water 18–23%; glycerol; flavor ingredients; 0.5 tsp sugar per stick; colorants

To remove stain from cloth, harden with ice and scrape, saturate with cleaning fluid, and repeat if necessary.

Storage: below 70°F, will keep for 6 months

See also **sapodilla**

chewy Characteristic of a food (usually candy) that resists breaking up by the teeth, but slowly dissolves in the mouth See also **confection**

Chex A ready-to-eat cereal

Corn—4% sugar

Rice—4.4% sugar

Wheat—3.5% sugar

Cheyenne steak Steak cut from the chuck

chhana A panir-type cheese made from cow's milk

chhang See **chang**

chhantelle See **chantelle**

chi (χ, X) A Greek letter with an English equivalent of x

chiang A flavorful paste made from soybeans, often mixed with wheat flour

chiang-yu A soy sauce made with wheat or barley

chiani bottle 30 oz

Chianina An extremely large, white, Italian breed of cattle used for work and beef production; claimed to

be the world's largest cattle and a very old breed

	Height at withers (ft)	Weight (lb)
Mature bull	6	4000
Mature cow	6	2400
13-month bull		1200

chianti A dry, fruity, Italian red table wine produced between Florence and Siena (central Italy) made from a mixture of Sangiovese and Canaiolo (red) and Trebbiano and Malvasia (white) grapes

Types:

Used when young (in straw-covered flask)

Aged 3 years (Riserva; in claret-shaped flask)

See also **wine**

chiarretto An Italian pale-red or rosé wine produced near Lake Garda and Verona (northern Italy) See also **wine**

chia seed Black seeds from the wild sage that can be used as food

chiavara A creamy, semisoft, mild-flavored, cheese made from cow's milk and ripened by surface bacteria

chiavari (caccio romano) A hard, sour rennet cheese made from cow's milk

Chicago dog (frank) A frankfurter served on a poppy-seed bun with yellow mustard, dark-green relish, chopped raw onion, tomato slices, and a sprinkle of celery salt

Chicago round A cut of beef

See Part 2: Beef Rounds

Chicago style A method of cutting beef; the forequarter is divided into chuck, rib, shank, brisket, and short plate; the hindquarter is divided into round, rump, loin end, short loin, and flank; the sirloin tip

(obtained in the National style of cutting) is left on the loin end in the Chicago style.

chicha Fermented corn or other plants. A sour, effervescent, yellow to red, alcoholic beverage usually made from maize

chicha de cebada A sour, alcoholic beverage made from barley

chicha de jova Chicha made from germinated maize

chicha de maíz rojo Chicha made from purple maize

chicha de soja Chicha made from soya

chicha de yuca Chicha made from cassava

chicha de jora A yellow, cloudy chicha

chick antidermatitis factor A vitamin-related complex See also **pantothenic acid**

Chickasaw plum (*Prunus angustifolia*) A mountain cherry

chicken (*Gallus domesticus*) A monogastric domesticated fowl (poultry) that is raised for eggs and meat production

Classes:

Broiler or fryer

Capon

Cock, or rooster

Cornish game hen

Fowl—hen or baking or stewing hen

Roaster

Rock Cornish fryer, roaster, or hen

Parts:

Back

Boneless breast

Breast

Drumsticks

Giblets

Neck

Thighs

Wings

Composition

	Water (%)	Protein (N × 6.25) (%)	Fat (%)	Ash (%)	Total carbohydrates (%)
Broilers and fryers					
Dark meat without skin, cooked, fried	55.70	22.99	11.62	1.08	2.59
Dark meat with skin, cooked, fried, batter-dipped	48.82	21.85	18.64	1.31	9.38
Dark meat without skin, raw	75.99	20.08	4.31	0.94	0.0
Dark meat with skin, raw	65.42	16.69	18.34	0.76	0.0
Light meat without skin, cooked, fried	60.14	32.82	5.54	1.09	0.42
Light meat without skin, raw	74.86	23.20	1.65	0.98	0.0
Light meat with skin, cooked, fried, batter-dipped	50.23	23.55	15.44	1.29	9.50
Light meat with skin, raw	68.60	20.27	11.07	0.86	0.0
Flesh and skin, cooked, fried, batter-dipped	49.39	22.54	17.35	1.30	9.42
Flesh and skin, raw	65.99	18.60	15.06	0.79	0.0
Flesh and skin, roasted	59.45	27.30	13.60	0.92	0.0
Flesh only, raw	75.46	21.39	3.08	0.96	0.0
Flesh only, fried	57.53	30.57	9.12	1.09	1.69

Chicken food products			Composition			
			Water (%)	Protein (N × 6.25) (%)	Fat (%)	Total carbohydrates (%)
Chicken, canned, boned with broth	68.65	21.77	7.95	1.81	0.0	
Chicken frankfurter	57.53	12.93	19.84	3.28	6.79	
Chicken roll, light	68.60	19.53	7.38	2.05	2.45	
Chicken spread, canned		15.41	11.72		5.39	

Age	Weight (lb)	Name
4–6 weeks	Up to 2.5	Broiler
	2–3.5	Fryer
Under 8 months	3.5–5	Rooster
	6–8	Capon

Normal life span 3–4 yr; age at puberty 4.5–6 months; 8–20 females served by one male; 4000×10^6 sperm/ml semen; semen volume per ejaculation 1.5 ml; egg laying 8 months; good hens produce 240–260 eggs/yr (500 eggs in a lifetime of 32 months); frequency of ovulation 1 day; duration of estrus—frequently during egg-laying period; molts at 18–20 months; ovulation occurs 24 h before egg is laid; gestation period 20–22 days; broiling or frying market weight (3–4.5 lb) is reached at 8–12 weeks; dressing percentage 72%; 8–18% fat absorption during frying

Sodium and cholesterol content:
 Breast with skin 69 mg Na/½ breast (98 g)
 Canned products 714 mg Na/5-oz can (142 g)
 3 oz chicken, no skin
 65 mg cholesterol (white meat)
 77 mg cholesterol (dark meat)

Canned pH 6.2

USDA grades: U.S. Grade A poultry; Grade B; Grade C

5.5–6.2 lb ready-to-cook chicken
 = 1 qt, canned without bones

3.5–4.2 lb ready-to-cook chicken
 = 1 qt, canned with bones

3 lb dressed chicken
 = 4½ cups chopped cooked meat
 = 1½ lb chopped cooked meat

1 lb, ready to cook = 2–3 servings

1 cup, cooked, cubed = 5 oz

1 cup, stewed, chopped = 5 oz

1 cup, stewed, diced = 4.8 oz

1 cup, stewed, ground = 4 oz

Storage: Keep in coldest part of refrigerator; use within 1–2 days.

See **poultry** entries

See Part 2: Bacteria on Chickens at Various Holding Temperatures; Bone; Calories, Daily Recommendations; Cholesterol Control; Egg Incubation Periods; Food, Composition; Frozen Food Storage; Frying Time; Glutamate; Glutamate Addition; Iron, Daily Recommendations; Liver; Meat and Meat Products, Composition; Microwave Processing Time; Minerals, Food; Portion Size; Poultry Breeds and Varieties; Poultry Class; Poultry Composition; Poultry Cooking, Frozen; Poultry, Dressing Percentage; Poultry Roasting; Poultry Yield; Soups, Composition; Spoilage, Protein Foods; Turkey Composition

chicken à la king Ingredients include chicken meat, mushrooms, red peppers, and celery, cooked in a sauce made from chicken broth, cereal, egg yolk, milk, cream, salt, and spices

See Part 2: Poultry Composition

chicken and dumplings, canned soup

Composition	Condensed	Prepared with water
Moisture (%)	83.8	91.8
Protein (%)	4.6	2.3
Fat (%)	4.51	2.3
Carbohydrate (%)	4.9	2.5
Ash (%)	2.2	1.1

chicken and ham roll A moist, cooked, unsmoked Irish sausage made from medium-chopped, medium-seasoned pork and chicken stuffed into an artificial casing

chicken breast
 1 whole breast = 0.5–0.75 lb
 1 average breast, skinned and deboned = 5 oz
 Halves, skinned and boned = 0.25 lb

chicken broth Available as a canned soup and in dehydrated forms (cubed and soup mix)

Chicken broth	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Canned soup						
Condensed	92.0	4.4	1.0	0.7	Trace	1.8
Condensed, prepared with water	95.9	2.0	0.6	0.4	Trace	1.0
Dehydrated, cubed						
Dehydrated	2.5	14.6	4.7	23.5		54.7
Prepared with water	97.4	0.4	0.1	0.6		1.4
Soup mix						
Dehydrated	2.3	16.7	13.9	18.0	0.2%	49.2
Prepared with water	96.8	0.6	0.4	0.6	0.01	1.6

168 chicken cacciatore

chicken cacciatore A skillet dish prepared with chicken, onion, garlic, tomatoes, wine, noodles, and olive oil

chicken chow mein See Part 2: Poultry Composition

Chicken, Chunky A ready-to-serve canned soup
Composition: moisture 84.1%; protein 5.1%; fat 2.6%; carbohydrate 6.9%; fiber 0.1%; ash 1.3%

chicken, cream of, soup Available canned and dehydrated

chicken gumbo soup Soup made from chicken stock and tomato base, with added chicken pieces, rice, and okra

chicken leg

1 small chicken leg = 6.6 oz

1 skinned and deboned leg = 5 oz

See **poultry legs**

chicken, milk-fed A chicken that has been fed milk or milk products in addition to grain for 2 weeks

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Cream of chicken soup						
Condensed	81.7	2.7	5.9	7.4	0.1	2.3
Prepared with milk	84.8	3.0	4.6	6.0	0.05	1.5
Prepared with water	90.6	1.4	3.0	3.8	0.05	1.2
Dehydrated	3.7	7.2	21.7	54.3	4.7	13.0
Prepared with water	90.9	0.7	2.0	5.1	0.4	1.2

chicken fat Fat removed from the carcass of chickens; smoke point 400–430°F

See Part 2: Iodine and Saponification Values

chicken grade See **poultry grades**

chicken gravy Available canned and dehydrated

Composition	Canned	Dehydrated	Dehydrated
			Prepared with water
Moisture (%)	85.3	3.8	91.4
Protein (%)	1.9	11.3	1.0
Fat (%)	5.7	8.3	0.7
Carbohydrate (%)	5.4	62.1	5.5
Fiber (%)		0.3	0.03
Ash (%)	1.6	14.5	1.3

prior to slaughter; reported to make flesh whiter and more tender

chicken mushroom, canned soup Composition:

Condensed—protein 3.5%, total lipid 7.3%;

Prepared with water—protein 1.8%, total lipid 3.7%

Chicken noodle, Chunky A ready-to-serve canned soup

Composition: protein 5.3%; total lipid 2.5%

chicken noodle soup Available canned (condensed) and dehydrated

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Chicken noodle soup						
Condensed	8.5	3.2	1.8	7.6	0.1	2.2
Prepared with water	92.0	1.7	1.0	3.9	0.1	1.2
Dehydrated	3.7	19.2	7.7	48.4	0.4	21.0
Prepared with water	94.2	1.2	0.5	2.9	0.03	1.3

chicken gumbo, canned soup

Composition	Condensed	Prepared with water
Moisture (%)	88.0	93.8
Protein (%)	2.1	1.1
fat (%)	1.1	0.6
Carbohydrate (%)	6.7	3.4
Fiber (%)	0.2	0.1
Ash (%)	2.1	1.1

chicken noodle with meatballs A ready-to-serve canned soup

Composition: moisture 90.7%; protein 3.3%; fat 1.4%; carbohydrate 3.4%; fiber 0.2%; ash 1.2%

chicken, potted (deviled chicken) A spreadable canned product made from finely ground chicken and spices

Chicken Rice, Chunky A ready-to-serve canned soup

Composition: moisture 86.8%; protein 5.1%; fat 1.3%; carbohydrate 5.4%; ash 1.4%

chicken rice soup Available canned (condensed) and dehydrated

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Chicken rice soup						
Condensed	87.8	2.9	1.6	5.8	0.1	1.9
Prepared with water	93.8	1.5	0.8	3.0	Trace	0.9
Dehydrated	3.9	15.1	8.9	57.1	0.2	15.0
Prepared with water	93.8	1.0	0.6	3.7	Trace	1.0

chicken, roasting See **roaster**

chicken roll A restructured, light-meat chicken product

Composition: moisture 68.5%; protein 19.5%; fat 7.4%; carbohydrate 2.5%; ash 2%

chicken salad A salad made from cooked chicken meat tossed with other ingredients, such as mayonnaise, chopped celery, etc.

5 chickens for salad = 50 servings

chicken spread A chicken product mixed with other ingredients to a spreadable consistency; often canned

Composition: protein 15.4%; fat 12%; carbohydrate 5%

chicken thigh

1 thigh = 2 oz

Chicken Vegetable, Chunky A ready-to-serve canned soup

Composition: moisture 83.4; protein 5.1; fat 2.0%; carbohydrate 7.9%; ash 1.5%

chicken vegetable soup Available canned (condensed) and dehydrated

Available: fresh or dried

Species: White (garbanzos)

Composition (dry seed): protein 20%; fat 4–4.5%; carbohydrate 5.5%; ash 2.5–3.0%; moisture 10%

1 cup, dry = 7.1 oz

See **garbanzo; pea**

See Part 2: Seed Germination

chick's first breath An air space in large end of egg, between two membranes

chickwanguie A soft cassava dumpling

chicle gum See **chewing gum; sapodilla**

chico Sapodilla; a tropical fruit with rough, brownish skin and sweet pulp; marmalade; tropical, egg-shaped, single-seeded fruit.

See Part 2: Fruit Classification

chicory (Brussels lof; endive; French endive; succory; witlof; witloof; witloof-chicory) A perennial herb used as a substitute for or mixed with coffee; used in moderate amounts (10–20%, or 1 oz/lb

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Chicken vegetable soup						
Condensed	85.5	2.9	2.3	7.0	0.1	2.2
Prepared with water	92.6	1.5	1.2	3.6	0.05	1.1
Dehydrated	4.7	19.0	5.6	55.0	—	15.7
Prepared with water	94.6	1.1	0.3	3.1	—	0.9

chicken wing Average weight is 3.2 oz

1 lb wings = 6 wings

chickling vetch (grass pea) An annual plant; ripe seeds are dried and used in stews and soups; unripe seeds are used like green peas. See **pea, grass**

chick-pea (Bengal gram; Egyptian pea; garbanzo; gram; Cicer arietinum) A tropical pulse (legume) with a small, hard (must be cooked until tender) seed; used as a green vegetable, dry pulse, or to make an Indian food called dhal; harvested in 4–6 months. The pods are small, $2\frac{1}{2}$ cm long and 1 cm wide; the seeds are med. size, 1–2 per pod; mature 100 days; Size 1–2 cm; wrinkled, with a point at one end; color—black, red, white, green, pink, yellow larger than a pea and shaped like a ram's head often called garbanzos when canned

Used: roasted; in soup; ground into meal; the juice is used for vinegar and beverages

coffee) with a good coffee it adds a sweet piquant flavor; however, if used to excess it adds a bitter flavor. Commercial chicory is processed from endive roots. The root is chopped, roasted, ground and the water extract used as a beverage. The leaves and shoots are usually blanched to reduce bitter taste and are used as salads or vegetables. The hearts are blanched and used as a cooked vegetable. Witloof is forced and harvested when leaves are approximately 6 in. used in salads. 19,500–27,000 seed/oz; 7–14 days germination time.

Types:

French endive (Witloof chicory)—large-rooted; by forcing the roots the blanched salads called Barbe de Capucin (Monk's beard) and Belgian endive are obtained

Summer chicory or escarole—crisp salad with bitter taste

Curly endive (greens with a somewhat bitter taste)

Terms:

Belgian endive (French endive, witloof)—cigar-shaped, bleached; crisp, bitter

Brussels witloof chicory—used for salad

Cichorium endivia—a vegetable; leaves cluster like cos lettuce

Chicons (tight buds)—salads

C. intybus—leaves are bitter; root used as a coffee substitute

Curly endive (chicory, chicory endive)—robust, green head; pungent leaves with crisp, white ribs and ragged edges; yellowish heart has a milder flavor

Escarole—bitter, broad-leaved, strap-shaped; firm texture

Frisee—a white endive, similar to curly

Leaf—spinachlike

Magdeburg chicory—used in coffee

Radicchio—small, round head; leaves pink to red with cream-colored ribs

Root—dried and ground to be used as coffee or added to coffee

Wild chicory—root used as a replacement for coffee

Witloof chicory—roots are forced and leaves form a solid head known as a witloof

Variety	Inner color	Head	Season	Use
Snowflake	Creamy	2-3 lb	75 days	Salad
Sugar Hat	Light green-yellow	2 lb elongated	86 days	Greens, salads
Verona	Red			
Witloof (French endive)	Blanched	5-6 in.	110 days	Chicons (tight buds) for salads

1 cup, trimmed, cut = 1.8 oz

Composition: moisture 95%; protein 1%; fat 0.1%; carbohydrate 3%; ash 0.6%

See French endive

See Part 2: Minerals (Trace), **Limits**; **Planting Density**; **Vegetable Composition**; **Vegetable Plants**

chicouangue A soft cassava dumpling

chicuva An herb liqueur made from very old sherry, brandy, and herbs

chiffonade Shredded vegetables or meat; green plants cooked in butter and usually used as a garnish
See Part 2: French Dressing Variations

chiffon cake **See Part 2: Baked Products**, **Frozen Storage Life**

chihili **See Chinese cabbage**

chihuahua A semisoft, mildly acidic, smooth cheese made from cow's milk

chikewo A fermented, yellow-brown, salty (20-25%), fish-paste condiment

chikuwa A cylindrical, fish-jelly product produced by baking kneaded fish meat wrapped around a stick

Child Care Food Program A program that offers nutritional benefits similar to school food programs on a year-round basis in Day Care centers, Head Start centers, and Family Day Care homes. Funds are also available for food service equipment. **See Child Nutrition Programs**

Child Nutrition Act of 1966 Legislation that authorized Child Nutrition Programs **See Child Nutrition Programs**

Child Nutrition Programs Programs administered by the Food and Nutrition Service, whose purpose is to safeguard the health and well-being of the nation's children

1. The National School Lunch Program
2. School Breakfast Program
3. Child Care Food Program
4. Summer Food Service Program for Children
5. Food Service Equipment Assistance Program
6. Special Milk Program for Children

See also entries for the individual programs

chile (chili) A pepper, available in mild to hot varieties

Type	Fresh	Processed	Flavor
Ancho	Bell-pepper shape	Dried, flat; round shape, 3-4-in. diam. wrinkled; red to black	Mild to hot
California green (anaheim)	Bright green; 6-8 in. long; 1.5-2-in. diam. tapered	Canned; soft, green	Mild to hot
Jalapeno	Dark green; 2.5 in. long; 1-in. diam.	Canned, pickled	Very hot
Mulato	Bell pepper; brown when ripe		Mild
Pasillo	Dark green; brown when ripe; 7-12 in. long, 1.5-in. diam.		Mild to hot
Poblando	Large; dark green tapered bell		Mild to fairly hot
Serrano	Green; red when ripe 1.5 in. long; ½-in. diam. cylindrical		Very hot

See ancho; **California green**; **jalapeno**; **mulato**; **pasillo**; **poblando**; **serrano**

Chilean nut (Chile hazel) The red fruit (with a hazelnut flavor) of a shrub

Chile hazel **See Chilean nut**

Chile pine nut Large cone has 100 to 200 seeds that may be eaten when ripe or may be roasted

Chile saltpeter (NaNO₃) Sodium nitrate derived from guano on islands off the coast of Chile

chili (chile; chilli; Guinea pepper; Capsicum frutescens var. longum) The strongest (fiery and pungent) fruit (pepper) of herbaceous plants belonging to the genus *Capsicum*; has a hot and pungent flavor; used in chili con carne, chili sauce, cayenne pepper, chili vinegar, and pickles. Chili is the dried, small, ripe fruit of the more pungent hot cultivars of capsicum peppers [*C. annum*, tabasco (which is

C. frutescens), *C. baccatum*, *C. Chinese*, *C. pubescens*]; sometimes used interchangeably with capsicum. Handle with gloves; will burn the skin; fixed oil 15–22%

Standards:

Acid-insoluble ash 1.25–1.6% max.

Ash 8–10% max.

ASTA color units 70 min.

Crude fiber 28% max.

Moisture 11% max.

Nonvolatile ether extract, dry basis, 5% min.

Total nitrogen, dry basis, 2% min.

See capsicum; chile

See Part 2: Wastes, Agricultural and Industrial

chili, Asian A generic term covering several explosive, hot, small bright green chili peppers with an elongated shape; the seeds and veins are often removed.

chili beef A canned soup

Composition	Condensed	Prepared with water
Moisture (%)	70.9	84.7
Protein (%)	5.1	2.7
Fat (%)	5.0	2.6
Carbohydrate (%)	16.3	8.0
Fiber (%)	1.1	0.6
Ash (%)	2.7	1.4

chili con carne (chili peppers with meat) A Mexican dish made of 40% (min.) meat [computed on fresh meat wt., 25% (max.) of meat as hearts, cheek meat, head meat or, weasand meat], 8% (max.) cereal or soya flour, and flavored with hot chili; also contains peppers, onions, garlic, beans, and seasoning
See Part 2: Meat Composition; Microwave Processing Time; Portion Size

chili con carne with beans Made with 25% (min.) meat; 25% (max.) of meat may be head, cheek, or heart meat

chili, dried red A 1-in., thin, red, wrinkled, very hot chili pepper; often blackened in oil before using

chili pepper 1) A collective term for many peppers; available fresh, dried, canned, and pickled; 1–9 in. long; color may be green, yellow, or red (red are ripened green peppers and are sweeter). 2) A mixture of Mexican and Californian capsicums; available in a medium grind (coarser than paprika); moisture 10–12%; Scoville heat units 675–900

Storage (fresh): wrap in paper towels and refrigerate; will keep 3–4 weeks

Storage (dried): in a cool, dry place; will keep for 1 yr

chili pod A 5- to 7-in., dark reddish brown, dried chili pepper (several varieties)

chili powder (chile powder) A preparation for seasoning that contains relatively mild chili pepper (80%), cumin, oregano, garlic, salt, and sometimes other spices (cloves, allspice, anise, or coriander); color is red to mahogany.

Frequently used formula:

83% red pepper

9% cumin

4% oregano

2.5% salt

1.5% garlic powder

Used in Chili con carne, gravies, hash, meat, meat sauces, rice, spaghetti, stews, and tamales

Terms:

Bright (or other equivalent terms)—untoasted peppers (bright red) are used.

Dark—chili pepper in blend is toasted to caramelize the natural sugars which darkens the color, and alters the flavor.

Composition: moisture 7–8%; protein 12–13%; fat 16–17%; carbohydrate 54–55%; fiber 22–23%; ash 8–9%; 25 mg Na/tsp (3 g)

chili sauce A hot, spiced tomato sauce that contains tomatoes (without skin and core), green peppers, vinegar, brown sugar, onions, salt, dry mustard, sugar, and spices

Composition: 227 mg Na/tbsp (17 g)

Storage: Cover and refrigerate after opening.

See Part 2: Standards, Processed Fruit and Vegetable Products; Tomato and Tomato Products, Composition

chili, yellow A wide variety of very mild to hot, smooth-skinned chili peppers that are pale yellow-green to orange and red

Popular types:

Banana pepper

Hungarian wax

Long yellow

Short caribe

chilled Cooled to 45°F (wine)

chilli *See chili*

chilling injury Damage caused by exposure to cold; the susceptibility of citrus fruit to chilling injury is very unpredictable and may occur in fruit stored at low temperature but above the freezing point. The symptoms take various forms, such as pitting, brown staining, oil-gland darkening, diffuse rind breakdown (scald), or albedo browning.

chilli pepper Available red or green, fresh or dried; African (hot) and Japanese (mild) varieties *See chili pepper*

chilli powder A blend of spices: cloves, coriander, cumin, garlic, pepper (hot), and oregano *See chili powder*

chill room A refrigeration area for meats and vegetables; regulation temp. $38 \pm 2^\circ\text{F}$; tolerance of 10°F for reasonable time after the entry of fresh food; ideal temp. $30 \pm 2^\circ\text{F}$

chilver A ewe lamb, from birth to weaning

chimaja A finely ground, mild spice made from the dried root of a wild cherry tree

chime *See double seam*

chimela Germinated, dried grains of sorghum, millet, or maize; malt

chimichanga A large flour tortilla filled, folded, and rolled like a burrito and fried

chinaberry A berry containing a toxic principle
See Part 2: Poisonous Plants

China-china An herb liqueur

China orange A large tangerine

China pea Similar to sugar pea but smaller; the pods are eaten and are often used in oriental dishes. *See cowpea*

China wood oil See tung oil

chinch bug (*Blissus leucopterus*) An insect that sucks the sap from corn and other small grains after they have been harvested

Control: segregate corn and small grains

Chinchwan cattle Red (a few are yellow), large, draft cattle with a distinct hump; originated in Central China

chindanda A steamed or baked cereal or cereal and starch dough; often flavored with onions and peppers

chine bone Body of cervical, thoracic, lumbar, and sacral vertebrae

See Part 2: Beef Rib Nomenclature; Beef Wholesale Cuts; Bone; Lamb Wholesale Cuts; Meat Identification; Pork Wholesale Cuts; Veal Wholesale Cuts

Chinese apricot plum A plum similar to a small nectarine

Chinese artichoke (*Stachys affinis*) A plant that produces white tubers that can be cooked or used raw in salads

Chinese bean See bean, mung

Chinese bitter melon (*Momordica charantia*) A warty, ornamental fruit with tangy flavor used in cooking

Chinese broccoli (*gai lon*) A plant with a shank, big leaves, and a small flower bud at the end of the leaf

Storage: in the refrigerator

Chinese brown vinegar A rice vinegar

Chinese cabbage (celery cabbage; chihili; crispy choy; flowering Chinese cabbage; michili; napa; nappa; petsia; siew choy; wong bok; *Brassica chinensis*; *B. pekinensis*) A salad green with a long (12–18 in.), oval, firm head and with a sweet cabbage taste; leaves resemble romaine lettuce; more like cos lettuce than cabbage; outer leaves green, inside and center of leaves white; may be cooked and does not have a strong odor.

Types:

Celery cabbage (wong-nga-bok; *B. chinensis*)—like a tight head of celery

Pe-Tsai (bok choy, *B. pekinensis*) like Swiss chard

Popular varieties:

Chi-hi-hi

Jade Pagoda

Pak Choi

Pe-Tsai

Variety	Growth habits	Season
Burpee Hybrid	Blocky head 13 × 8 in.	75 days
Crispy Choy	Loose-leaf, nonheading, 8 in.	45 days
Hybrid G Michihli	Blocky head Tall, (12–18) × 4 in.	70–90 days
Wong-Bok	Blocky head	

Storage: in pits or cold cellars

See also pak-choi; pe-tsai

Chinese celery (bok choy; celery cabbage; French celery; heung kunn; mustard cabbage; pak-choi; *Apium graveolens*; *Brassica chinensis*) An oriental, nonheading Chinese cabbage or loose-leaf celery that produces spicy-flavored, celery-like stalks topped with green leaves with a pleasing flavor; used in salads and as flavoring

Chinese chard (bok choy) Resembles Swiss chard but has smaller leaves and forms a head

Chinese cheese Sufu soybean curd

Chinese chestnut (*Castanea mollissima*) A 30- to 40-ft tree that bears chestnuts that can be used for roasting and poultry stuffing

Chinese chive (*Allium tuberosum*) A plant whose flat, 6-in. leaves have a garlic flavor; the flower buds are also used in seasoning. See gow choy

Chinese cooking Main schools are Canton, Fukien, Honan, Shantung, and Szechuan

Chinese cooking melon A thick, crisp, apple-like melon that is steamed or boiled and has a sweet flavor; requires about 75 days for growth and weighs $\frac{1}{2}$ lb at harvest

Chinese date (*Zizphus jujuba*) A tropical tree with long, pointed seed; may be eaten fresh or candied See jujube

Chinese eggplant See eggplant

Chinese five spice mixture Contains equal quantities of anise, cinnamon, cloves, fennel seed, and star anise

Chinese food habits

Animal products—eggs, fish, meat, shellfish

Grains—rice, cereal, noodles

Vegetables—many types; soybeans, sweet potatoes

Chinese goose See goose

Chinese gooseberry (kiwi fruit; *Actinidia chinensis*) A green to brown, egg-shaped (3 × 1.5 in.), hairy, juicy fruit with green flesh and gooseberry-like seeds. It may be eaten raw or cooked in sugar. See kiwi

Chinese isinglass See agar-agar

Chinese lantern See gooseberry

Chinese long bean An 18-in. string bean

Chinese mushroom Straw mushroom

Chinese mustard (gai choy; mustard greens; mustard spinach; tender greens) A pungent green vegetable, similar to Chinese cabbage, with a loose habit of growth and used as a substitute for spinach. The leaves are eaten raw as a salad or cooked as spinach; the tuberous root is cooked like white turnips.

Storage: Wash and store in a plastic bag or crisper in the refrigerator.

See leaf mustard

Chinese mustard greens (goy choy; *Brassica cerinua*) Slightly bitter greens, available fresh or salted and canned

Chinese okra A large (up to 12 in.), dark green okra with deep ridges

Storage: refrigerate

Chinese olive (java almond) A stone fruit from which a fragrant resin is extracted; the fruit may also be eaten sweetened, dried, or salted.

Chinese parsley See *cilantro*; *coriander*

Chinese pea (snow pea) A young green pea pod, containing small peas, that is eaten whole See *soy-bean*

Chinese pork sausage Sausages that contain grain alcohol and soy sauce as characterizing ingredients

Chinese sausage (lup cheong) A sweet pork sausage that becomes translucent when heated; fermented, semidry pork sausage with liver See *Chinese pork sausage*

Chinese turnips (lo bok) Similar to radish or daikon in flavor

Storage: Wash, store in crisper in refrigerator

Chinese vegetables Usually include bamboo shoots, bean sprouts, celery, mushroom, onion, potatoes, sweet peppers, and water chestnut

Chinese vegetable tallow See Part 2: Iodine and Saponification Values

Chinese water chestnut (pi-tsi; *Eleocharis tuberosa*) A water plant and its tuber, which is sliced and used as food; it has a very crisp texture.

Composition (raw): moisture 96%; protein 0.4%; fat 0.2%; carbohydrate 3%; ash 0.2%

Chinese watermelon (*Benincasa hispida*) A vine of the gourd family, originally from China and the East Indies. It has a large [(8–21) × (3–8) in.], multi-shaped (round to long and slender) fruit, with white flesh that keeps well and is eaten raw or used to make preserves.

Chinese white radish (lo bok) A big (9–12 in.), mild-tasting radish that is tapered like a carrot

Chinese winter melon A white and green, watermelon-sized marrow with white flesh and yellow seed; used in soup and preserved in sugar

Chinese yeast Gray-white, dried balls of starter; grown on starch or cereal base and used as an inoculum for fermented foods

ching hua ham A red, country ham

chingko A variety of wild highland barley

ching-tsai A vegetable

chinic acid See *quinic acid*

chinois See *cumquat*

chinook A grade of Alaskan salmon See also *salmon* See Part 2: Salmon and Trout

chinquapin A shrub that produces a small, fruit-flavored nut in a mahogany shell

Types:

Dwarf chestnut (*Castanea pumila*)

Related tree (*Castanopsis chrysophylla*)

chin tui A fried, wheat-flour-dough pie filled with cheese, fish, meat, and sometimes fruit

chip 1) A deep-fat fried finger of potato. 2) A thin silicon wafer on which electronic components are deposited in an integrated circuit

chipboard (newsback, patent-coated) Recycled paperboard covered with a thin layer of bleached, virgin fiber and/or clay coating and used to manufacture convolute or spiral wound cans

chipolata A small, moist, uncooked, unsmoked French sausage made from medium-chopped, mildly seasoned pork fermented and stuffed into a pork casing

chipped beef (dried beef) Cured, smoked, dried beef sliced in paper-thin fragments; usually made from top round

See Part 2: Meat Composition; Meat, Servings per Pound

chipped beef, creamed A mixture of thick white cream sauce and chipped beef, often served on buttered toast

chips 1) American (crisps)—thinly sliced, deep-fried potatoes. 2) British—American-style, French fried potatoes

chipumu A sorghum beer

chiri A fish soup

chi-square (χ^2) A measure of deviation from a hypothesis

$$\chi^2 = \sum (f - F)^2 / F$$

f = no. found in sample

F = no. expected by hypothesis

$$df = (\text{total possible classes}) - 1$$

e.g., $df = 1$ if there are two categories (e.g., yes and no). χ^2 of 6.635 or larger, there is a 1% possibility of this taking place if the hypothesis is true; χ^2 of 3.841, 5% possibility. Percentage values *cannot* be used without returning to a known sample size.

chitin A water-insoluble polysaccharide containing amine groupings; tends to form horny layers such as occur in protective coatings of shellfish. Its chemical structure is not unlike that of cellulose except for the presence of nitrogen.

See Part 2: Histochemical Tests

chitterling (chittlin') Intestine of swine; considered a food delicacy by some people; may be used as a sausage casing

chiu A rice wine

chiu niang (tien chiu niang) A sweet, slightly alcoholic, glutinous rice

chiu-yueh Gray-white, dried balls of starter, containing bacteria, molds, and yeast on starch or cereal base, used as inoculum for lao-chao

chive (schnittlauch; *Allium schoenoprasum*) A sulfur-containing, onionlike perennial (80 days) plant that grows in tufts and whose leaves (6- to 10-in., hollow, grasslike spears) are used fresh or freeze-dried; used as a mild flavoring in cream cheese, potato salad, omelettes, stews, etc. The lavender flower heads may be chopped fresh, dried, or frozen in ice and are also used as flavoring. Freeze-dried (1–3% moisture) it has a fresh-weight replacement of 1:12; approximately 1,000,000 $\frac{1}{8}$ -in. pieces of freeze-dried chives per pound

174 chive (schnittlauch; *Allium schoenoprasum*)

Composition: moisture 91%; protein 2%; fat 0.3%; carbohydrate 6%; ash 0.8%

See Part 2: Planting Density; Vegetable Planting Chart

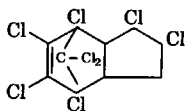
chive butter Soften $\frac{1}{2}$ stick unsalted sweet butter, add 1 tbsp finely minced fresh chive (or $\frac{1}{2}$ tsp dried chive); cream together, adding a few drops of lemon juice.

chlamydo-spore agar See Part 2: Microorganism, Media

chloramine Refers to various compounds containing nitrogen and chlorine; chlorine combined with ammonia, e.g., monochloramine (NH_2Cl), dichloramine (NHCl_2); effective bactericides with a slow kill rate

chloramine T A topical antiseptic and sanitizer
See Part 2: Chlorine Availability; Chlorine Compounds; Sanitizers

chlordan(e) A toxic chlorinated hydrocarbon insecticide; its use on food crops has been prohibited.



chlorella agar See Part 2: Microorganism, Media

chloride A compound of chlorine with another element; a salt of hydrochloric acid See also **chlorine**
See Part 2: Chloride Salt, Injury; Chlorine Availability

chloride of lime See **bleaching powder**

chlorinated hydrocarbon (chc) A hydrocarbon in which some or all of the hydrogen atoms have been replaced by chlorine; carbon tetrachloride is an example; as a group, they are quite toxic and some have been used for pest control [e.g., aldrin, benzene hexachloride (lindane), chlordane, DDE, dichlorodiphenyltrichloroethane (DDT), dieldrin, endrin, HCB, heptachlor, methoxychlor, TDE, and toxaphene]. Because of concern for public health, many that have been used as insecticides (e.g., DDT and chlordane) are no longer permitted on food crops, though a number of others are still in approved use.

chlorinated lime (bleach; bleaching powder) A loose combination of chlorine and lime; a disinfectant (to most bacteria except acid-fast), deodorant, and bleach; 24% min. available chlorine; levels used are 200 ppm to disinfect equipment and $1\frac{1}{2}$ lb/100,000 gal drinking water.

Disadvantages: corrosive to metal; large amounts must be used; irritating to mucus membranes; odor absorbed by food

Storage: must be tightly closed until use

chlorination Treating or combining a substance with chlorine

chlorine (Cl) A halogen element; a toxic, greenish gas at room temperature; an oxidizing agent; a water solution of chlorine is often used for disinfection and sterilization; at. no. 17; at. wt. 35.457; Group VIIA of the Periodic Table; oxidation states +1, +5, +7, -1; electron configuration 2-8-7

orbit K L M

As hydrochloric acid, it imparts intensely acid pH to

gastric juice (about pH 2.0); normal diet provides adequate supply of chlorine. See also **hydrochloric acid**

See Part 2: Chloride Salt, Injury; Chlorine Availability; Chlorine Compounds; Chlorine, Water Treatment; Egg Products, Nutritive Value; Lemon Juice Composition; Minerals, Food; Normal Solutions; Sanitizers; Sanitizing Chemicals; Water Drinking Standards

chlorine demand The difference between amount of chlorine added and the total residual chlorine measured by the 5-min orthotolidine test

chlorine dioxide (ClO_2) An unstable combination of chlorine and oxygen; oxidizing gas prepared on site by adding chlorite to water containing excess chlorine; used as a sanitary agent

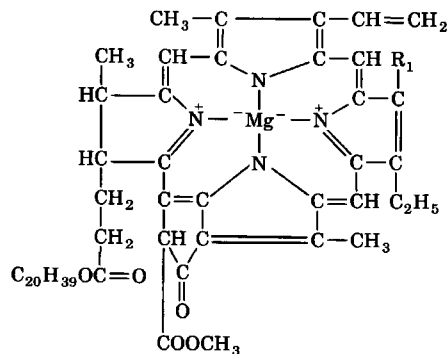
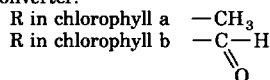
chlorine dosage Total amount of chlorine added

chlorine, free Uncombined chlorine (most effective bactericidal state); can only be obtained after entire chlorine demand has been satisfied

chlorobromuron See Part 2: Corn Herbicides

chloroform (CHCl_3) A chlorinated hydrocarbon that has anesthetic properties and is a solvent for fat; its use in cough medicines etc. has been prohibited because of its suspected carcinogenicity.

chlorophyll A green pigment present in all green plants; it is essential for the formation of carbohydrates by the plant because it acts as an energy converter.

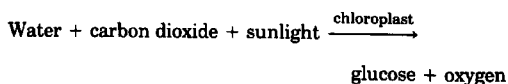


It is slightly soluble in water; acid or heating changes color to olive green, and alkali intensifies the green color. See also **photosynthesis**

chloropicrin (CCl_3NO_2) A very poisonous liquid used as a fumigant; inhalation of fumes may be serious.

See Part 2: Fumigants

chloroplast Green organelles (in plants) that store energy trapped from the sun

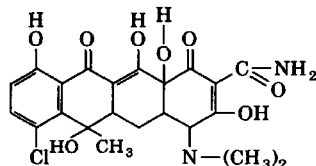


chlorosis 1) Abnormal yellowing of foliage, often due to deficiency of nutrients, or lack of light. 2) Anemia of young girls due to faulty nutrition

chlorotic leafspot A viral disease of sweet potatoes, similar to internal cork See **internal cork**

chlorphenol red A pH indicator with a range of 5.2–6.8; It is yellow in the acid and red in the basic direction.

chlortetracycline A broad-spectrum antibiotic; used to promote growth and improve feed efficiency, to control diseases, to reduce liver abscesses, enterotoxemia, bacterial diarrhea, and respiratory infection, to treat foot rot, as a wormer, and to increase egg production and hatchability



See Part 2: Antibiotic Standards

chocolate A solid or semiplastic food made from chocolate liquor derived from cocoa nibs, which are obtained from the cocoa bean (a seed of the *Theobroma cacao* tree); originally from Central and South America; the beans are dried, removed from the pod, and fermented (tannin reduced to 1.9% at this step); the pulp is removed, washed, dried, and roasted (146–300°C), which develops flavor. The kernels are broken, removed from the shell, heated, and ground. This product is called bitter chocolate; it contains not less than 50% cocoa fat; max. 8% ash on fat-free moisture-free basis; max. 0.4% ash insoluble in HCl on fat-free moisture-free basis; max. 7% crude fiber on fat-free moisture-free basis.

Composition (cooking chocolate): moisture 2–3%; protein 10–11%; ash 3–4%; 5–35 mg caffeine/oz (milk chocolate) 6 mg caffeine/oz, baking chocolate 35 mg caffeine/oz)

One ounce of chocolate can be substituted by 3 tbsp of cocoa plus 1 tbsp of fat.

1-oz square unsweetened chocolate
= 3 tbsp cocoa + 1 tbsp shortening

1-oz envelope liquid baking chocolate
= 3 tbsp cocoa + 1 tbsp vegetable oil or melted shortening

4-oz bar sweet baking chocolate
= $\frac{1}{4}$ cup cocoa + (2 tbsp + 2 tsp) shortening +
($\frac{1}{4}$ cup + 2 tsp) sugar

1 lb = 2 cups

1 cup = 225 g (7.9 oz)

1 cup chocolate pieces or chips = 6 oz

1 cup miniature chips = 6 oz

1 cup, grated = 3–4.6 oz

1 square = 1 oz

1 oz = 5 tbsp, grated

Terms:

Bloom—a mottled or gray surface or loss of gloss due to exposure to heat and moisture

Fat bloom—a grayish greasy film on the surface, caused by fat melting and making its way to the surface

Gray surface—results when chocolate is held at 85°F or more, causing the cocoa butter to melt and rise to the surface; when the temperature is lowered, it hardens on the surface

Premium—bitter chocolate made into small cakes for cooking

Sugar bloom—a rough, grayish layer that results from recrystallization of sugar on the surface

To remove stain from cloth:

1. Prewash in cold water; if necessary, use pretreatment spray or cleaning fluid; bleach if needed.

2. Soak in warm water with enzyme product.

Defect action level (and number of samples used):

Average of 60 microscopic insect fragments per 100 g (6 samples)

Average of 100 microscopic insect fragments per 100 g (1 sample)

Average of 1.5 rodent hairs/100 g (6 samples)

Average of 4 rodent hairs/100 g (1 sample)

Storage: 38–42°F

See **candy**; **cocoa**; **semisweet chocolate**, **semisweet chocolate pieces**, **sweet cooking chocolate**; **unsweetened chocolate**

See Part 2: Calories, Daily Recommendations; Coatings; Dairy Terms; Flavor Ingredients, Taste and Flavor Type; Nicotinic Acid, Food; Spoilage, Carbohydrate Foods; Sugars and Sweets, Composition

chocolate agar See Part 2: Microorganism, Media

chocolate beverage May mean chocolate milk or hot cocoa

Composition (homemade, with whole milk): moisture 81.6%; protein 3.6%; fat 3.6%; carbohydrate 10.3%; fiber 0.08%; ash 0.8%

Types	Chocolate liquor (%)	Milk solids (%)	Sweetened	Sugar (%)	Carbohydrate (%)	Fat (%)	Calories per gram	Calories per square
Bitter, or baking	100	0	No	5–20	28	50 + (usually 54)	5	142
Dark		0						
Milk	10 (min.)	≥ 3.66 (milk fat), ≥ 12 (solids)	Yes	35–50	57	32–55		154
Semisweet or bittersweet	35 (min.)	12 (max.)	Yes		57	32–39	4.8	135
Sweet	15 (min.)	12 (max.)	Yes	40–65		34–36	5.3	

176 chocolate cake

chocolate cake One $\frac{3}{4}$ -in. sector of 9-in. round layer cake (without chocolate icing) contains 235 calories.
See Part 2: Baked Products, Frozen Storage Life

chocolate chip cookies One $2\frac{1}{3}$ -in. cookie ($\frac{1}{2}$ in. thick) contains 50 calories.

Composition: 69 mg Na in two cookies (21 g)

chocolate-coated peanut See Part 2: Sugars and Sweets, Composition

chocolate creams A candy (35 pieces/lb)

1 oz (2–3 pieces) = 125 calories

chocolate cream pie Composition: 107 mg Na/ $\frac{1}{8}$ pie (66 g)

chocolate drink (chocolate low-fat milk) A beverage, normally made from skim or low-fat milk (less than 3.25% fat) to which sugar and chocolate have been added; nonfat milk solids may be added.

chocolate-flavored beverage See Part 2: Sugars and Sweets, Composition

chocolate-flavored drink A beverage, normally made from skim or low-fat milk (less than 3.25% fat) to which sugar and cocoa have been added; nonfat milk solids may be added.

chocolate-flavored milk Whole milk to which sugar and cocoa have been added; min. fat 3.25%

chocolate liqueur A sweet, white to brown liqueur flavored with chocolate

chocolate meringue pie

$\frac{1}{8}$ of a 9-in. pie = 285 calories

chocolate milk Whole milk to which sugar and chocolate have been added; min. fat 3.25%

Composition	Low-fat milk		Whole milk
	1% fat	2% fat	
Moisture (%)	84.5	83.6	82.3
Protein (%)	3.2	3.2	3.2
Fat (%)	1.0	2.0	3.4
Carbohydrate (%)	10.4	10.4	10.3
Fiber (%)	0.06	0.06	0.06
Ash (%)	0.8	0.8	0.8

20 mg cholesterol/cup (low-fat)

6 tsp sugar/8 oz

1 cup = 240 calories

chocolate milk shake One 12-oz container contains 405 calories.

chocolate mints A candy (20 pieces/lb)

1 oz (1–2 mints) = 115 calories

chocolate mousse A frothy mixture of beaten egg whites, chocolate, and sugar or brandy

chocolate sauce A sauce made from chocolate, milk, sugar, egg yolk, and vanilla

chocolate spot A disease of brood beans

chocolate, Swiss A chocolate liqueur containing floating pieces of chocolate

chocolate syrup Double strength syrup contains 2 times as much chocolate as single-strength

1 tbsp thin-type syrup = 45 calories

1 tbsp fudge-type syrup = 60 calories

chocolate, white A mixture of cocoa butter, milk solids, sugar, and vanilla

choice A marketing grade of meat, fruit, or vegetable
See Part 2: Grades, Meat; Lamb Quality Guide; Meat Grade Stamps

chojnicksa A moist, cooked, smoked Polish sausage made from fine- or medium-chopped, medium-seasoned beef and pork stuffed into pork or artificial casings

choke 1) A condition in cattle in which a foreign object is lodged in the throat. 2) The flower head of an artichoke See also **artichoke**

chokecherry 1) Red, astringent fruit of a shrub, used to make preserves. 2) A toxic berry
See Part 2: Poisonous Plants

choking Describes an unpleasant, suffocating, irritation of the throat caused by, e.g., compounds such as C-8 or C-11 aldehydes

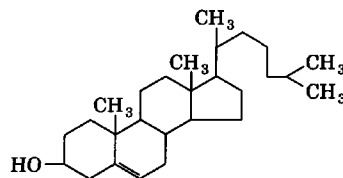
cho-ku Straw mushroom

cholecalciferol A form of vitamin D designated as D₃; activated 7-dehydrocholesterol
See Part 2: Vitamins

cholelithiasis The production of gallstones

cholera, hog An infectious and fatal swine disease caused by *Vibrio cholerae*; may be prevented by vaccination; the organism is destroyed by pasteurization.
See Part 2: Illness from Food

cholesterol (sterol of liver) A sterol found in all animal tissues, especially in the brain, egg yolk, and cod liver oil; the unsaponifiable fraction of animal fats and gallstones



It is made in the body, is important in the synthesis of certain hormones, and is an essential part of many cells. It is present in every animal cell and is a normal constituent of blood and tissue. In the diet, it is found only in foods of animal origin: high concentrations are found in organ meat (e.g., brain, liver, kidney, heart, sweetbread, and gizzard) and egg yolk; moderate concentrations in shrimp; smaller concentrations in other foods of animal origin. Foods of plant origin contain sterols called phytosterols.

Levels:

A human synthesizes 1–2 g cholesterol/day.

Bile contains 0.6% cholesterol.

Human blood plasma contains 0.25% cholesterol.

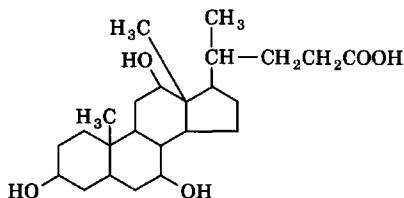
Eggs contain 0.46% cholesterol.

Other foods of animal origin contain cholesterol in varying amounts.

Recommended cholesterol intake is 300 mg or less per day; the guideline for women 23–50 years old is 300 mg/day

See Part 2: Cholesterol Control; Egg Products, Nutritive Value; Histochemical Test; Steroids

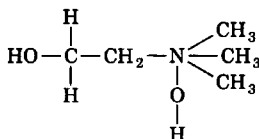
cholic acid



Used as an emulsifying agent in food (e.g., dried egg whites)

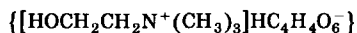
Storage: Tight container

choline A water-soluble member of the vitamin B complex; deficiency causes "fatty livers" in rats, damage to kidneys in rats, damage to leg tendons in the chick, and reduced egg production in hens; it is widely distributed in biological material and is made synthetically.



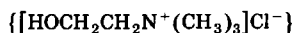
See Part 2: Egg Products, Nutritive Value; Grain Analysis; Milk and Milk Products, Vitamin Content; Wheat Products, Composition; Wheat, Vitamins

choline bitartrate



Used as a nutrient or dietary supplement
Package: Tight container

choline chloride



Used as a nutrient or a dietary supplement
Storage: Tight container

cholinesterase An enzyme that neutralizes the toxic effect of the acetylcholine formed by the nervous system

cholinesterase inhibitor An ester of phosphoric acid that has the effect of preventing the enzyme cholinesterase from functioning, thus causing serious illness and often death from acetylcholine poisoning; a number of insecticides of the parathion type act in this way, and though they are not persistent they are dangerous to handle.

cholla A tea bread rich in eggs but with no fruit

chondroprotein A glucoprotein found in connective tissue, tendon, and cartilage

chonggak-kimchi An acidic, carbonated vegetable pickle made with oriental radish

chontaruru A wine made from the sap of the chonta palm

chop 1) A slice ($2\frac{1}{2}$ –4 cm thick) of pork, veal, or lamb, including the bone; usually broiled or fried

Storage: Coldest part of refrigerator; in original wrapper, 1–2 days storage; unwrapped and covered loosely, 3–5 days storage

2) A 1- to 2-in.-thick slice. 3) To cut into small or fine pieces; to comminute food. 4) A seal or stamp used on some foods to authenticate them. 5) A grade of tea indicating good quality

See Part 2: Braising Time; Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Lamb Cuts; Lamb Cuts and Uses; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat, Servings Per Pound; Pork Chart; Pork Cooking; Pork Cooking Methods; Pork, Cooking Yield; Pork Cuts; Pork Loin Cooking; Pork Storage; Portion Size; Roasting Meat; Veal Chart

chopa blanca (*Kyphosus sectatrix*) A food fish similar to the rudderfish

chop-chai A dish made from meat, vegetables, and vermicelli

chopped Food that has been reduced to small pieces with a chopping knife or mechanical food chopper See **chop**

chopped beef Ground beef made from fresh or frozen beef, with or without seasoning; with max. 30% fat (some manufacturers use max. 20% fat). No water, binder, or extenders added; max. 25% beef cheek meat

chopped food (junior food) Processed, canned foods that have been chopped for use by infants who are ready to graduate from strained foods

chopped ham A semisolid meat product in the form of a compact mass made from ham and curing ingredients See **ham, chopped**

chopped spiced ham or pork A medium- to coarse-chopped, cooked, unsmoked, American sausage that is canned sterile or shelf-stable

chopped steak Ground steak containing 20% fat

chopper 1) Medium-finished, aged ewes. 2) A high-speed machine used for cutting meat into fine particles (or bowl-chopper)

chop suey (cha sui) A thick, stewlike dish made with beef, pork, veal, and/or chicken, vegetables (bamboo shoot, bean sprouts, celery, mushrooms, onion, potato, and water chestnuts), soy sauce or special sauces, rice or noodles, and spices; served with cooked rice

See Part 2: Meat Composition; Microwave Processing Time; Pork Loin Cooking

chop suey greens (*Chrysanthemum coronarium*)

1) Used as greens in the Orient. 2) Spicy greens that are stir-fried or steamed and used for flavor or in salads; petals of the flowers are used in salads, soups, and rice.

chor- A prefix meaning green

chorek A sweet bun

chorizo (choriza; chourico) 1) A coarsely ground, highly spiced (paprika as the characterizing ingredient, pimiento, garlic, and red pepper) Spanish sausage in which pork predominates (sometimes a little beef

is used, but if made with all beef, it should be labeled beef chorizo); it is dried (moisture-protein ratio of 1.9:1 or less) and lightly smoked; may also contain vinegar and/or wine; sometimes packed hot with lard in a can. A heavily seasoned, pimiento-colored, dried beef or pork sausage. A spicy, smoked, pork sausage. A dry, Spanish, Portuguese, or Mexican sausage that is highly seasoned with red peppers. 2) A semidry or dry, uncooked, smoked American sausage made from coarsely chopped, heavily seasoned (red pepper) pork and/or beef with Spanish pimiento and stuffed into pork, sheep, or artificial casings.

Composition: moisture 32%; protein 24%; fat 38%

3) A dry or semidry, uncooked, smoked or unsmoked French sausage made from medium- or coarse-chopped, heavily seasoned beef, pork, and goat, fermented and stuffed into beef, pork, or artificial casings. 4) A dry, uncooked Australian sausage. 5) A moist, cooked or uncooked, fresh, smoked or unsmoked Uruguayan and American sausage made from medium- to coarse-chopped, medium-seasoned beef and pork stuffed into a beef or pork casing; available in fermented and/or dried or semidried links, rings, or large-diameter casings

See Part 2: Sausage Identification

chorizo, fresh A moist, uncooked, unsmoked, uncured American sausage made from coarsely chopped or chunked, heavily seasoned (with white wine, vinegar, garlic, and spices) beef and pork stuffed into a large-diameter link or ring, or pork, sheep, or artificial casing

chorizo pamplona 1) Coarsely chopped beef and pork chorizo. 2) A dry, uncooked, unsmoked Mexican sausage made from coarsely chopped, heavily seasoned beef and pork, fermented and stuffed into an artificial casing

chorizo rama A semidry, uncooked, unsmoked Mexican sausage made from medium-chopped, heavily seasoned pork stuffed into a beef casing; dried approximately 1 week, and fried or cooked before consuming

chorizos frescos A moist, uncooked, unsmoked Argentinian sausage made from coarsely chopped, mildly seasoned beef, lamb, pork, veal, and wheat starch, with backfat (pork), stuffed in a pork casing

chorogi See **artichoke, Japanese or Chinese**

chorote A pozol made from maize dough and ground cocoa beans

chou See **koji**

chou caraihe (*Arum esculentum*) A plant cultivated for its root, which is prepared like suede

choum-choum A rice beer

chourico A medium- to coarse-chopped, cooked, smoked or unsmoked, American sausage available in large-diameter links, rings, or large-diameter casings for slicing See **chorizo**

chourisam Pork chorizo with liver

chou-tofu A mature sufu soybean curd with a strong odor

chovrica See **linguica**

chowchow A finely ground or cut sour pickle, sour cured cauliflower and onion mixed with mustard sauce and spices; used as a relish
See Part 2: Vegetable Storage

chowder 1) A large size of hard, soft, or surf clams. 2) A soup made with clams or fish boiled in milk.

Types:

Maine—does not contain tomatoes

Manhattan—contains tomatoes

chow fun Broad noodles made from rice flour

chow mein A dish whose ingredients (pork, egg, bean sprouts, celery, cabbage, vermicelli) are similar to chop suey but the dish is served by placing on fried noodles

Types: dry; wet

chow mein noodles Thick, crisp, fat-fried spaghetti served with chow mein, chicken à la king, cream dishes, and as a snack

Chowpei Yellow, brown, and red, humped (male only), dual-purpose (draft and beef) cattle that originated in Hupeh (Hubei, central China) Province

christalina A rennet hard cheese made in Switzerland from cow's milk

Christensen agar See Part 2: Microorganism, Media

christi palma See **castor bean**

christman porridge A porridge made from rice, milk, butter, and almonds

Christmas melon See **Santa Claus melon**

Christmas pudding A solid mixture of fruit, beef fat, nuts, eggs, bread crumbs, and brandy (which is lit during serving)

christophine See **vegetable peas**

-chrom- A word-element meaning color

chromatography A method of separating mixtures of chemicals based on preferential adsorption or differential rate of migration; some of the types currently used include gas, liquid, high pressure liquid, paper, and thin-layer chromatography

chrome tanning Making leather from hides using sodium dichromate ($\text{Na}_2\text{Cr}_2\text{O}_7$) as the tanning solution; it is converted to chromic sulfate, which combines with the protein of the hide.

chromium (Cr) A metallic element; at. no. 24; at. wt. 52.01; Group VIB of the Periodic Table; oxidation states +2, +3, +6;

electron configuration 2-8-13-1
orbit K L M N

The 6-valent form is poisonous. The metal is hard, corrosion-resistant, easily cleaned, and used in plating utensils. It reflects rather than absorbs heat, which causes severe problems when cooking with electric elements.

Body function: Acting with insulin, it is required for glucose utilization.

Sources: brewer's yeast; whole-grain cereals; liver

chromoprotein A protein attached to a color group, e.g., hemoglobin

chromosome The location of DNA and the carrier of genetic material; DNA strand

Types: sex (XX = female, XY = male); autosome (which vary in number according to species)

Shape of chromosome pairs: metacentric; submetacentric; acrocentric; telocentric

chronic Descriptive of a disease that develops slowly and has a long duration

chu 1) Second grade. 2) A type of dawadawa. *See dawadwa; koji*

chub (blackfin; longjaw; *Leuciscus cephalus*) 1) A freshwater food fish of the carp family.

Types:

- Chub mackerel (Pacific mackerel)
- Chum salmon (*Oncorhynchus keta*)
- Columbia River—peamouth
- North America—*Leucichthys*

See lake herring

2) Meat packed into an oxygen-semipermeable roll stock tube that is clipped at both ends

chub bologna Bologna with bacon added

chuck 1) Part of forequarter of beef consisting of the thick area of the first five ribs; about 26% of a choice steer carcass

See Part 2: Beef, Boneless Cuts; Beef Chart; Beef Chuck; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Roasting; Beef Wholesale Cuts; Beef Yields; Lamb Chart; Potassium-Rich Foods

2) Part of the can-closing machine; fits inside the countersink end and acts as a support to the cover and body as the can is sealed

chuck meat Chuck minus the chuck roll

chuck rib roast A beef roast made from the chuck area (first five ribs)

chuck tender *See* Scotch tender

See Part 2: Beef, Boneless Cuts

chufa (aya; earth almond; rush nut; tiger nut; zulu nut; *Cyperus esculentus*) A perennial grass or reedlike plant (3 ft tall) that has very hard tubers about an inch in length (used like peanuts). The edible (raw or roasted) tubers of a sedge plant; may be eaten raw, ground, roasted, or cooked but used primarily for hog feed

chuffy Very compact and blocky

chukkal A fermented, yellow-brown, salty (20–25%), fish-paste condiment

chum *See* salmon

See Part 2: Salmon and Trout

chumai A red dessert wine

chum salmon A light-meat finfish with light to moderate flavor

Chungking cabbage Pressed, dried, salted gai choy

chung-kook-jang Strong-flavored, dark brown soybeans in dark brown paste with rice straw

Chungwei goat (tan goat) A small, white, horned goat raised for its pelt and cashmere; found in Ningxia (Ningxia, north-central China) and Kansu (Gansu, north-central China) provinces

chunk *See* Part 2: Fish Forms

chunk honey Pieces of honeycomb covered with extracted honey

chuño Flour made by natural freeze-drying of bitter, high-altitude potatoes

Types:

- Blanco—white, without potato skins
- Negro—black, with potato skins

chupatty An unleavened, coarse wheat-flour pancake

chura A dried mixture of fermented yak's milk (2–3 parts) with wheat flour (1 part) and tea

churgot Yogurt

churning Mechanical agitation of whole milk or cream so that the fat globules stick together to form butter and are separated from the buttermilk. *See also butter*

churro A long doughnut made from wheat flour

chute An inclined ramp used for loading and unloading

chutney (chutnee) A spicy Indian relish composed of sweets, acids, and fruits (e.g., apple, banana, gooseberry, peach, or tomato); usually contains either apples, cucumbers, mangoes, or tomatoes with chilies, lemon juice, spices, and tamarind pulp; used with curries and stews

chuzo Gray white, dried balls of starter, containing bacteria, molds, and yeast on starch or cereal base; used as an inoculum for fermented foods

chyle Fluid from chyme; emulsified fat and lymph in the intestinal tract prior to absorption

chyluria Presence of chyle (fat) in urine

chyme The food material that leaves the stomach and enters the small intestine

chymosin *See* rennin

chymotrypsin A proteolytic enzyme that attacks native proteins and is found in *pancreatic* juices in the small intestine; it is secreted in the inactive form called chymotrypsinogen.

chymotrypsinogen Inactive form of chymotrypsin and the form in which it is secreted; it is activated by trypsin.

CI *See* color index

ciaska drozdowe A rice- and wheat-flour bread that is high in eggs and fat and sometimes contains dried fruit

CIAT *See* International Center for Tropical Agriculture; Centro Internacional de Agricultura Tropical

ciboule *See* onion

cicro *See* lake herring

-cid(e) A suffix meaning kill

cider Juice from apples; bitterness or astringency from tannins in the juice is desirable; the juice will ferment due to yeast in 24 h unless this action is stopped by pasteurization. A still or sparkling, alcoholic (2–8% alcohol), fermented apple juice. In the United States, the term means fresh, unfermented apple juice.

Types:

- Champagne cider—sparkling cider
- Distilled liquors from cider—apple brandy; calvados; applejack
- Hard cider—fermented apple juice
- Soft cider—unfermented apple juice

Methods of preservation:

Refrigeration—32–36°F; will keep 1–2 weeks without fermenting

Freezing (10% expansion)—will retain quality for 1 yr

Pasteurization (170°F for 10 min)—keeps indefinitely without fermenting

Ultraviolet irradiation—destroys most but not all microorganisms; extends refrigerated shelf life

Chemical—Potassium sorbate

70°F storage for several weeks—use 0.1% (max.)

50°F storage for several weeks—use 0.05%

Benzoate of soda or other benzoate preparations are sometimes added as a preservative.

Cider normally is not pasteurized but a preservative is usually added. Apple juice is usually pasteurized.

Cider apple classification:

Bittersharp (sharp with high tannin content)

Bittersweet (sweet with high tannin content)

Sharp (high acid content)

Sweet (low acid content)

In making cider, usually two or more varieties are mixed. The following apple varieties are listed according to suitability as cider material.

Sweet subacid:

Baldwin

Cortland

Delicious

Grimes

Hubbardston

Rome Beauty

Stark

Mildly acid to slightly tart:

Jonathan

Newtown-Pippin

Northern Spy

R. I. Greening

Stayman

Wealthy

Winesap

York Imperial

Aromatic:

Delicious

Golden Delicious

McIntosh

Ribston

Winter Banana

Astringent and highly acidic (crabapple):

Florence

Hibernal

Martha

Red Siberian

Transcendent

Composition (apple juice): moisture 88%; protein 0.1%; fat 0%; carbohydrate 12%; ash 0.2%; pH 2.9–4.0

1 bu apples = 3 gal apple juice or cider

1 cup = 8.8 oz

Pressure to squeeze = 24 ton/in.²

Storage: 32–36°F

See Part 2: Minerals (Trace), Limits

cider vinegar (apple cider vinegar; apple vinegar)

The product made by the alcoholic and subsequent acetous fermentation of the juice of apples; vinegar made from cider See **apple (cider) vinegar**

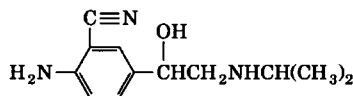
cieddu Yogurt

CIF (cost, insurance, freight) A freight term indicating that the seller is responsible for cost, the ocean marine insurance, and the freight charges on an ocean shipment See **cost, insurance, freight**

cilantro (Chinese parsley) Fresh Mexican or Chinese coriander, which has a leafy appearance similar to parsley, with a pungent lemon-flavored leaf and seed, used as an herb in pork, lamb, chicken, meatloaf, meatballs, hamburger patties, soup, stews, pickles, and salads See **coriander**

cilia Small hairlike appendages or contractile fibers of a cell, used by unicellular organisms to propel themselves and by higher animals to move fluids through their body

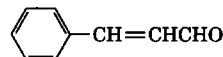
cima rellena A moist, cooked, unsmoked Argentinian sausage made from medium-seasoned (with boiled eggs, spinach, carrots, peas, parsley, vinegar, chili, and marjoram) beef, stuffed into a sewn skin bag, which is rolled and tied

cimaterol

A beta-agonist that is orally active

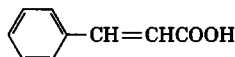
CIMMYT See **Wheat and Corn Center**

cincho A high-fat, soft to hard, hand-pressed cheese made from ewe's milk

cinnamaldehyde (cinnamic aldehyde)

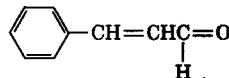
Used as a cinnamon-oil-like flavoring agent

Storage: Full, tight, glass container in a cool, dark place

cinnamic acid

Used as food flavoring agent

Storage: A well-closed container

cinnamic aldehyde (cinnamaldehyde)

Principal flavoring component in oil of cassia

cinnamon [*Cinnamomum aromaticum* (*C. Cassia*); *C. burmanni*; *C. loureirii*; *C. verum* (*C. zeylanicum*)] A spice made from the dried inner bark of an evergreen tree of the genus *Cinnamomum*; may be in ground or stick form; bark is peeled and slowly dried into quills, which are folded together for packing. Cassia and cinnamon are from different trees but their flavor is similar and they have the same uses. Both cassia and cinnamon are called cinnamon but cinnamon is buff-colored and mild-flavored (popular in Mexico). Ceylon cinnamon is the mildest

variety. Cassia has almost entirely replaced cinnamon as a spice in the United States. Cinnamon is used in curry powders and confectionery, and as a food flavoring agent with a spicy, penetrating, and tenacious aroma and a sweet, warm, pleasant, and astringent flavor.

Composition: moisture 9–10% (10% max.); protein 3–4%; fat 3–4%; volatile oil 4% min.; carbohydrate 79–80%; fiber 24–25%; ash 3–4% (5% max.); acid-insoluble ash 2% max.; sp. gr. 1.011–1.031

Defect action level: average 5% moldy pieces by weight; average 5% insect-infected pieces by weight; 1 mg excreta/lb

Terms:

Chips—inferior-grade trimmings that contain more woody material, such as root bark and the outer part of stem bark

Feathering—inner bark of twigs; fragments

Quillings—broken quills

Thin quill—bark from small branches

Producing countries: Malagasy Republic (Madagascar); Seychelles; Sri Lanka

Types:

C. Aeylanicum—Sri Lanka

C. Cassia—China

C. Culilawan—culilawan bark

C. Loureirii—Indochina

Vernacular names: Ceylon cinnamon; Seychelles cinnamon; true cinnamon

1 tsp = 4 g

Storage: in tightly sealed container (short shelf life)

See also **cassia**

See Part 2: Essential Oils; Flavoring Agents, Natural; Flavor Ingredients, Taste and Flavor Type; Spices, Microbial Content

cinnamon-bark oil (*Cinnamomum verum*) A pale yellow, liquid volatile oil obtained by steam distillation or hydrodistillation of the inner bark of cinnamon

Composition: alcohols; aldehydes; cinnamaldehyde 51–76%; esters; eugenol 5–18%; eugenol acetate; ketones; terpenes

Storage: full, tight, glass container in a cool, dark place

See **cinnamon oil**

cinnamon fern See **fiddlehead fern**

cinnamon-leaf oil (*Cinnamomum verum*) A brownish yellow essential oil obtained by steam distillation of the leaf of cinnamon; used as a food flavoring agent. The composition is different from bark oil and is a source of eugenol (60–90%); other components are cinnamaldehyde (1–5%), benzyl benzoate (0–27%), linalol, and beta-caryophyllene.

Types: Ceylon (sp. gr. 1.03–1.05); Seychelles (sp. gr. 1.04–1.06)

Storage: full, tight, glass container in a cool, dark place

cinnamon oil An essential oil distilled from broken cinnamon bark See **cinnamon-bark oil**

cinnamon oleoresin Obtained by extraction with organic solvents from *Cinnamomum burmannii*, *C. cassia*, *C. loureirii*, or *C. verum*

Contains:

Extracts

Fixed oil

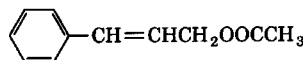
Steam, volatile (essential) oil (16%)

cinnamon-root-bark oil (*Cinnamomum verum*)

A colorless to yellow-brown liquid; camphor is the major constituent (60%); other components are cinnamaldehyde (4–8%) and eugenol (trace to 5%).

cinnamon vine See **yam**

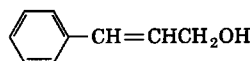
cinnamyl acetate



Used as a food-flavoring agent

Storage: tight, light-resistant container

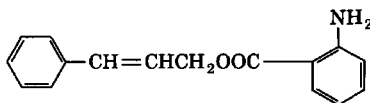
cinnamyl alcohol



Used as a food-flavoring agent

Storage: full, tight, glass container in a cool, dark place

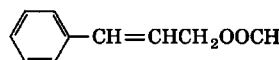
cinnamyl anthranilate



Used as a fruity flavoring agent in food

Storage: full, tight, glass container

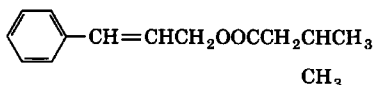
cinnamyl formate



A balsamic-like flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

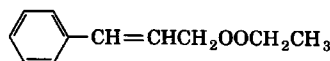
cinnamyl isovalerate



A spicy, fruity, floral-like flavoring agent in food

Storage: tight, light-resistant container

cinnamyl propionate



A fruity, floral-like flavoring agent in food

Storage: tight, light-resistant container

Cinqueterre (five villages) An area of northwestern Italy that produces a full-flavored, dry white wine and a sweet white wine made from sun-dried grapes

Cinzano White and red types of Italian vermouth

cioppino A highly seasoned soup made with shellfish, fish, tomato, onion, and garlic

CIP 1) Cleaned in place. 2) See **potato center**

circassian chicken A dish made from white chicken meat and chicken stock, flavored with walnuts and butter and colored with paprika

182 circuit breaker

circuit breaker An automatic switch that opens when current flow exceeds a predetermined value. It also may be manually operated.

circular mil A measure of area

1 circular mil

= 0.7854 square mil

= 5.067×10^{-6} square centimeters (cm^2)

= 7.854×10^{-7} square inches (in.^2)

circumference (C) The perimeter of a circle; 360° , or 2π radians

$$C = D(3.1416) \quad D = \text{diameter}$$

$$C = 2R(3.1416) \quad R = \text{radius}$$

ciro A wine from southern Italy

Types:

Red (big and robust)

Rosé

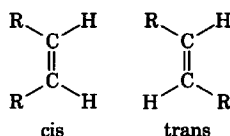
White (dry, full, and flowery)

cirrhosis A disease characterized by the formation of connective tissue and wasting of organ tissue, e.g., liver damage due to chronic large intake of alcohol

ciruela See red mombin

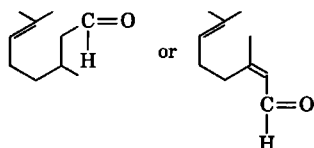
cisco (lake herring; *Coregonus artedii*; *Leucichthys artedii*) Refers to many species of freshwater fish (including lake herring) similar to the chub that are available fresh or salted and smoked; a freshwater food whitefish. See lake herring

cis-trans isomers So-called geometric isomers, in which the location of substituent groups in relation to double-bonded carbons is indicated by either *cis*- (Latin for "on this side") or *trans*- (Latin for "on the other side"). In structures below, the *cis* form has both R groups on one side of the double bond, whereas in the *trans* form they are diagonally opposite each other:



citeaux A cheese made from cow's milk

citral



An ingredient in lemongrass oil but often prepared synthetically; used as a lemonlike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

citrange An acid-flavored citrus fruit that is a hybrid between sweet orange (*Citrus sinensis*) and trifoliate orange (*Poncirus trifoliata*); used in preserves and beverages

See Part 2: Fruit and Nut Rootstock

citrangequat Hybrid between citrange and kumquat

citrate A salt of citric acid. Sodium citrate ($\text{C}_6\text{H}_5\text{Na}_3\text{O}_7 \cdot 2\text{H}_2\text{O}$) combines with calcium to prevent blood from clotting (600 mg sodium citrate/100 ml blood) See citric acid

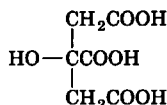
citrate azide agar See Part 2: Microbiological Examination of Dairy Products

citrate mannitol agar See Part 2: Microorganism, Media

citrate medium See Part 2: Microorganism, Media

citrate monoglyceride See Part 2: Antioxidant Mixtures

citric acid



A tricarboxylic acid formed in the cells of plants (found in most fruits and particularly in citrus fruits such as lemon, lime, orange, tangerine) and animals in a sequence of reactions known as the Krebs cycle; it acts as a catalyst of tissue oxidation. Obtained by fermentation of molasses and used in foods (cereals, fruits, instant potatoes, meat, oil, and snack foods) as an antioxidant, acidulant, firming agent, color brightener, sequesterant agent, dispensing agent, astringent, and flavoring agent; also used as an antimicrobial food additive in acid foods, in preserving fish, jam, beverages, and pastries, to neutralize residual lye after lye-peeling fruit, and to prevent darkening of frozen fruit. Citric acid in milk (0.01–0.2%) is converted by fermentation into diacetyl (flavor component). Citric acid and sodium citrate at levels of 0.1–0.2% are sometimes used for food fortification; 0.2% in fresh blood prevents clotting (sodium citrate is also used).

Storage: tight container

See also Krebs cycle

See Part 2: Acidulants; Antioxidants, Formulas; Antioxidant Mixtures; Maple Syrup Composition; Normal Solutions; Organic Acids in Fruits and Vegetables; Reagents, Normal Solutions

citridic acid See aconitic acid

citron (*Citrus medica*) A small citrus tree that produces an elongated fruit (up to 8 in.) with a rough, greenish yellow to golden yellow rind (which is preserved and dried and used in baking, e.g., fruit cake), under which is a thick, white, inner skin enclosing a sour pulp (similar to lemon but not as acid). The fruit is made into the candied citron of commerce and the fermented thick peel is candied or glacéed and used like orange or lemon peel. The oil used for flavoring and the fruit is made into marmalade, and is also used to make the alcoholic beverage cedratine.

See Part 2: Minerals, Food; Vegetable Plants

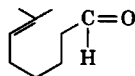
citron (*Citrullus vulgaris citroides*) A vine that produces a watermelon-type fruit that is light to dark mottled green and has a hard shell (8 in.) and a firm, white flesh that is candied and made into preserves (never eaten raw).

Varieties: Colorado

citronella (*Cymbopogon nardus*) An essential oil steam-distilled from a southeast Asian grass; contains geraniol, camphene, and dipentene. It has strong odor and is used as an insect repellent (especially mosquitoes).

See Part 2: Essential Oils

citronellal

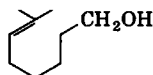


Prepared synthetically and used as a lemon, citronella, roselike flavoring agent in food; sp. gr. 0.850–0.861

Storage: full, tight, glass container in a cool, dark place

See **citral**

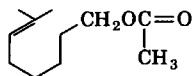
citronellol



May be obtained by reduction of citronellal or by distillation of geranium or citronella oil; used as a food-flavoring agent

Storage: full, tight, glass container in a cool, dark place

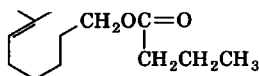
citronellyl acetate



Used as a fruity flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

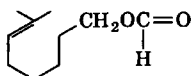
citronellyl butyrate



Used as a fruity, roselike flavoring agent in food; sp. gr. 0.872–0.884

Storage: full, tight, glass container in a cool, dark place

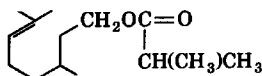
citronellyl formate



Used as a floral-like flavoring agent in food; sp. gr. 0.890–0.904

Storage: full, tight, glass container in a cool, dark place

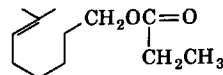
citronellyl isobutyrate



Used as a rose-like, fruity flavoring agent in food; sp. gr. 0.870–0.881

Storage: full, tight, glass container in a cool, dark place

citronellyl propionate



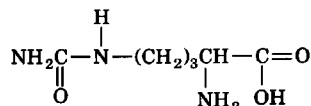
Used as a fruity flavoring agent in food; sp. gr. 0.876–0.887

Storage: full, tight, glass container in a cool, dark place

citronen A yellow liqueur made from lemon juice and lemon peel

citron melon A watermelon that is used in making preserves

citrulline



A resin obtained from plants and used as a laxative

citrus fruit (citrous) Any of the Rutaceae family of plants. Fruit with sections divided by membranes; originally from eastern and southeastern Asia. Tropical or subtropical, small trees that contain a winged leafstalk, e.g., citrange, citrangequat, citron, clementine, grapefruit, kumquat (not a true citrus), lemon, lime, limequat, orange, orangequat, ortanique, papeda, pomelo (pumelo), shaddock, tangelos, tangerine, tangor, and ugli

Flowers and leaves (essential-oil source)

Fruit (citric acid; pectin source)

Juice (80–90% sugar and acid; high in vitamin C)

Skin (essential-oil source)

Storage: Unwrap; keep at lowest possible room temperature (60–70°F); use within 1 week; short-term refrigeration not harmful

See **anthracnose; aspergillus black-mold rot**

See Part 2: Citrus Fruit Storage; Flavor Ingredients; Taste and Flavor Type; Fruit and Nut Rootstock; Fruit and Vegetables, Diseases; Fruit Composition; Fruit Storage; Microbiological Media; Pectin Content; Rot Spoilage; Storage Times

citrus liqueur A beverage with medium to high alcoholic content, flavored with citrus fruit and sometimes sweetened

citrus peel Skin of orange or lemon; used candied or grated (in cakes, desserts, drinks, and flavoring)

citrus pomace Used as livestock feed

Composition	Pomace	
	Silage (citrus pulp)	Without fines, dehydrated
Dry matter (%)	21	91
Protein (%)	1.5	6.1
Fiber (%)	3.3	11.7
Fat (%)	2	3.4
Ash (%)	1.2	6.0

citrus red No. 2 A synthetic food additive used to color orange skins

citrus rust mite [*Phyllocoptruta oleivorus* (Ashmead)] Causes russetting of citrus fruit; the

184 citrus rust mite [*Phyllocoptruta oleivorus* (Ashmead)]

injury differs with variety and maturity and can be in the form of silvering of the peel (sharkskin), brown scarring and cracking, smooth brown stain (bronzing), or purple staining. Due to more rapid loss of moisture, this fruit should be stored no longer than necessary.

citrus syrup Molasses, sometimes used as animal feed

Composition: dry matter 68%; protein 5.5%; fat 0.2%; ash 5.3%

city chicken Alternate layers of veal and pork placed on a skewer

See Part 2: Veal Chart; Veal Cuts

ciu A local gin distilled from tape (slang for intoxicating liquor) with molasses

ciuppin A fish dish

civet A game ragout containing blood and flavored with wine, onions, cardoons, and mushrooms

civil defense agar See Part 2: Microorganism, Media

Cl Symbol for the element chlorine

clabber Milk soured to a point where a firm curd is formed but not to the point of whey separation

Cladosporium See Part 2: Mold, Food; Spoilage, Fat in Food

cladosporium spot A spotting of figs caused by *Cladosporium herbarum* that first shows as olive green specks, which later enlarge, become slightly depressed, and turn to a yellowish olive color; does not usually decay the fruit

clafouti A fruit and egg pudding

clam A lean, bivalve mollusk; a shellfish

Types and regions of occurrence

Butter, Washington (*Saxidomus giganteus*; *s. nuttalli*)—Atlantic; Pacific

Cherrystone—Atlantic

Coquina (*Donax* spp.)—Atlantic

Gapar, horse neck—Pacific

Geoduck—Pacific

Gulf (*Titaria cordata*)—Gulf of Mexico

Hard (round, 1½-in. diam.), quahog or chowder (quahaug, *Venus mercenaria*), hard-shell, or cherrystone (*Mercenaria mercenaria*)—New England; Middle and South Atlantic

Littleneck, rock cockle, native, Japanese, Manila (*Paphia staminea*, *Protothaca staminea*)—Atlantic; Pacific

Pismo (*Tivela stultorum*)—Pacific

Razor (5 × 2 × 1½ in.), hard-shell (*Siliqua patula*)—Pacific

Soft, soft-shell (long, *Mya arenaria*), or steamer—North and Middle Atlantic coast; Pacific

Surf, bar, or skimmer (*Spisula solidissima*)—Middle Atlantic

Clams are sold in the shell and should be alive with a tightly closed shell.

Consumed: young (eaten raw); older (used in soup)

As purchased	Yield (%)	Quantity per serving	
		Ounces	No.
Breaded	85	3.75	
Canned		3.0	
Cherrystone clams			7
In shell			
Hard	15	22	½ doz
Soft	30	10	1 doz
Shucked	48	6.5	

Form (amount needed for one serving):

In shell as appetizer (6)

In shell as entree (15–20)

Shucked ½–¾ cup

Equivalents:

1 pt, shucked = 18 in the shell

= 15 oz in the can, minced

1 cup clam juice = 8.3 oz

1 cup, raw, meat only = 8 oz

1 cup, canned, meat only = 5.6 oz

1 round, raw, chowders = 1.1 oz

1 med., raw, meat only = 0.75 oz

1 large, raw, soft = 0.4 oz

Composition	Canned			Meat
	Drained solids	Liquor	Solids and liquids	
Moisture (%)				80–82
Protein (%)	16	2.3	8	11–14
Fat (%)	2.5	0.1	0.7	1–2
Carbohydrate (%)	1.9	2.1	2.8	1–6
Ash (%)				2
pH				5.9–7.1 (avg. 6.5)

43 mg cholesterol per 3 oz raw clam meat

30–174 mg Na/3 oz (85 g)

Clams may contain a toxic substance derived from a plankton organism (*Gonyaulax catenella*) and should be periodically tested.

Storage: packed in ice in a refrigerator for a maximum of 7 days

See Part 2: Cholesterol Control; Fish and Shellfish, Composition; Fish, Storage; Frozen Food Storage; Frying Time; Minerals, Food; Portion Size; Soups, Composition

clam bouillon Broth from cooked clams

clam broth Diluted clam liquor

clam, canned Canned clam meat

Terms:

Juice—clam juice or diluted clam juice

Weight—weight of drained meat

Meat—white clam meat, dark organs removed

clam chowder A chowder made from clam juice, chopped clams, potatoes, onions, and sometimes other vegetables and seasoned with butter, salt, and pepper

Types:

Manhattan style (New York)—chopped clam meat, potatoes, tomatoes, onions, sometimes other vegetables, and water; seasoned and boiled

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Manhattan clam chowder						
Chunky (ready to serve)	86.0	3.0	1.4	7.8	0.2	1.7
Condensed	84.3	1.7	1.8	9.7	0.4	2.5
Prepared with water	89.5	1.7	0.9	5.0	0.2	1.5
Dehydrated	4.1	10.9	8.2	57.5	3.0	19.3

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
New England clam chowder						
Condensed	82.5	4.3	2.0	8.7		2.4
Prepared with milk	85.2	3.8	2.7	6.7		1.6
Prepared with water	90.5	2.0	1.2	5.1	0.1	1.2
Dehydrated	3.5	12.3	16.2	56.7	0.9	11.3

New England—chopped clam meat and milk, no tomatoes; boiled

clam chowder, Manhattan Available as a canned soup (condensed and ready to serve) and as a dehydrated soup mix *See* **clam chowder**

clam chowder, New England Available as a canned soup (condensed) and as a dehydrated soup mix *See* **clam chowder**

clam, coquina A small ($\frac{1}{2}$ in.), white, red, yellow, orange, purple, or patterned, wedge-shaped bivalve; used to make chowder

clam extract *See* **clam liquor**

clam, hard-shell (littleneck) Clams that are almost round and bulgy, with thick shells, e.g., quahaug, razor; the flesh is superior to soft-shell clams *See* **clam**

clam juice Undiluted clam liquor

clam liquor (clam extract) The liquid obtained during cooking and opening clams

clam nectar Concentrated (by evaporation), natural juice removed from clams by heat; used in canning clam meat and making broth, bouillon, and chowder

clam, soft (longneck) Clams that are thin and oblong, with thin shells *See* **clam**

clanrana An herb liqueur

claret A dry, red, table wine; red wine of the Bordeaux (southwestern France) area:

Graves—south

Médoc—north (very good wine)

Pomerol—east

St. Emilion—east

A low-alcohol (10% alcohol by volume) red wine *See also* **cabernet; wine**

clarets of China tea Black tea from China

clarification Purification of a liquid, such as drinking water, beef stock, melted butter, sugar solution, or vegetable oils, by adsorbing the suspended solid

particles on activated clays or carbon, or by use of aluminum sulfate; impurities causing undesirable color, odor, and taste in the liquid are thus removed. Rendering a liquid or semiliquid clean of particles by distillation, centrifuging, or filtration. Fats are clarified by boiling with water and then allowing to separate. Meat broth and sugar solutions require egg whites to aid in clarification. *See also* **colloid**

clarify To make clear: stock, aspic, or other liquid by adding egg shell or egg white; melted butter by spooning off milk solids

clarifying agent A substance that aids the removal of small particles that cloud liquids

clary (clear eye) A biennial herb (related to sage) whose leaves are used as food and tips of young shoots and flowers are used in beverages, salads, and as seasoning in omelettes and meat dishes

Species:

Hormium clary (*Salvia hormium*)

Meadow clary (*S. sclarea*)

Types:

Broadleaf

Longleaf

Wrinkled leaf

Storage: leaves are artificially dried, rubbed, and stored in an airtight container

clary oil (clary sage oil; oil of muscatel; *Salvia sclarea*) A yellowish essential oil used as a flavoring agent similar to sage; obtained by steam distillation; sp. gr. 0.886–0.930

Storage: full, tight, glass container in a cool, dark place

classic Describes an exceptional wine from a classic region

classification Dividing into categories; separating small solid units into groups of uniform size by passing them over a selective device such as a wide-mesh screen. Such fruits as peas, olives, etc., are graded in this way.

class mark The center value for a class interval (e.g., for class interval 12.5–17.5, class mark is 15)

clatite Pancake

clavicle See Part 2: Bone

clay 1) Aluminum silicate ($\text{Al}_2\text{O}_3\text{SiO}_2 \cdot \text{H}_2\text{O}$); a firm, fine soil that is coherent when wet and hard when dry. Clay soils are at least 50% clay, less than 50% sand, less than 50% silt, and are often called heavy soils. See also **kaolin**. 2) A variety of cowpeas
See Part 2: Soil Classes

clean Describes a wine with no defects or the odor or aroma of wine that has no trace of decay, mold, or vinegar

clean cut A method of describing a live animal:
Bone—no puffy or meaty joints
Cannon or shank—free from coarseness or meatiness
Head and neck—finely sculptured appearance, no coarseness

cleaning Removing objectionable matter; chaff, weed seed, dust, and other foreign matter removed from cereal grain

cleaning solution A solution made by adding 500 ml concentrated sulfuric acid to 25 ml saturated sodium dichromate; allow to cool before use; this red solution will turn green when oxidizing power has been exhausted.

clear Uncloudy; free of turbidity

clear cut shoulders (shoulder clod) A beef roast made from muscle on the foreshank, to the rear of the forearm bone

clear eye See **clary**

clear flour A grade of white flour that may be made from the poorer 5–60% of all the white flour milled; it is further subdivided into the following grades:
Fancy clear or First clear
First clear or Second clear

clearing agents See Part 2: Minerals (Trace) Limits

clear plate Back fat covering pork shoulder butt or Boston butt; 10% skin
See Part 2: Pork Shoulder

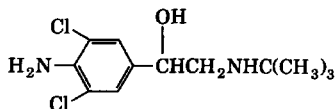
clear soup Clear consommé made from meat tissue

cleaver A heavy cutting knife or axe for cutting meat

cled agar See Part 2: Microorganism, Media

clementine (*Citrus nobilis* var. *deliciosa*) A hybrid cross between wild North African orange and a tangerine; between an orange and a tangerine in size, color, and ease of peeling

clenbuterol



A beta-agonist that is orally active

climacteric period The period of development of some plant parts that involves a series of biochemical changes associated with a natural respiratory rise and autocatalytic production of ethylene

climax A variety of lespedeza

climbing cutworm An insect; the moth has dark gray, marked forewings and the larvae are rounded, soft, smooth-bodied, and up to $1\frac{1}{4}$ in. long. The larvae curl up tight when disturbed and feed at night on the buds before leaves form.

climbing milkweed (*Ampelanus albidus*) A perennial weed

cloak fern A plant having a toxic principle
See Part 2: Poisonous Plants

cloche, sous Under a bell

clod The deltoideus and infraspinatus muscles of the chuck (shoulder); they lie lateral to the scapula and ventral to its spine; the large outside muscle from a beef chuck
See Part 2: Beef, Boneless Cuts

clod bone The humerus

clone Describes a population derived from a single cell or stock

clonevan A mild, creamy, firm, flat, full-cream, milk cheese

Clorox Proprietary name for sodium hypochlorite ($\text{NaClO} \cdot 5\text{H}_2\text{O}$); percentage of available chlorine—2–6% home use, 10–18% industrial use

clos de Vougeot A red wine

close To seal or assemble a cap or cover to a can

closed side (beef) Close kidney or tight kidney side; the right side

closing machine (double seamer, seamer) A machine that double-seams the end and body of a can

closing price The price for a commodity futures contract generated by trading through open outcry at the close of a trading session

Clostridium A genus of spindle-shaped bacteria that are gram-positive, spore-forming rods with an enlarged central endospore

Clostridium botulinum A common soil bacterium (at least five types) that produce the toxin responsible for the food poisoning known as botulism; anaerobic bacteria that produce very heat resistant spores; botulism is the most serious but rarest type of food poisoning, with from 30 to 65% of the cases ending in death; it is a gram-positive rod; the bacteria should be heated to 250°F for at least 24 min to kill them; the spores are killed at 120°C for 4 min (type E spores are killed at 80°C for 10 min); the toxin is destroyed at 100°C for 10 min and vegetative cells are killed by pasteurization. Lethal dose of toxin is 0.00000035 g. See also *Bacillus botulinus*; **botulism**

See Part 2: Bacterial Food-Borne Illnesses; Microbial Toxins; Microbiological Media; Microorganism, Media; Spoilage, Carbohydrate Foods; Spoilage, Protein Foods; Thermophiles

Clostridium perfringens (Sometimes called *C. welchii*.) An anaerobic microbe that causes food poisoning; some spores have extreme heat resistance; it is universally prevalent, the greatest problem being heat-resistant spores that have survived the cooking process and germinate and multiply when the food is

left at an intermediate temperature. The key to safety is temperature control (danger range 65–122°F) after cooking. Implicated foods usually contain 1×10^5 per gram

Media used for growth:

Cooked meat medium

Fluid thioglycollate medium

SFP agar base

SPS agar

See Part 2: Bacterial Food-Borne Illnesses; Food Poisoning, Bacteria; Illness from Food; Infectious Diseases, Food-Borne; Microbiological Media

Clostridium welchii See *Clostridium perfringens*

clostrisel agar See Part 2: Microbiological Media

closure (cap; cover; end; lid; seal) Usually refers to the top of a container (e.g., a can); the joint or seal that is made by attaching a cover, cap, or plug to a container

closure lug On lug twist caps, it fits under glass lug for security

clothing wool Wool that is too short to reach the combing grade

clotted cream Cream skimmed from scalded milk and then heated

cloudberry (baked-apple berry; yellow berry; *Rubus chamaemorus*) An orange-red berry that is often used like the blackberry; it grows in very cold climates and is of a golden color

cloud ear A Chinese mushroom that is often dried and must be softened in water before cooking

cloud-ear fungus A dark brown to black, gelatinous, crinkly mushroom

clouding agent An ingredient added to prevent the separation of insoluble flavoring oils (usually in citrus drinks)

See Part 2: Clouding Agents

cloudy Not clear; turbid

clove (*Caryophyllus aromaticus* or *Eugenia caryophyllata* Thunb.) 1) The unopened flower bud (purplish brown) of the clove tree (an evergreen) is used for spices; buds are picked by hand and

sun-dried. They have a round head, are spikelike in shape, and may be obtained ground or whole. The term "bold" means a large well-formed, clove bud; 4000–7000 dried buds/lb

Sources: Brazil; Madagascar; Tanzania

Characteristics

Aroma—rich, floral, balsamic

Flavor—astrigent, spicy, sour-fruity, penetrating, refreshing, very hot, and aromatic; increases in potency in frozen foods

Grind—often medium

Import standards:

Acid-insoluble ash 0.5% max.

Ash 6% max.

Clove stems 5% max.

Crude fiber 10% max.

Moisture 8% max.

Total extraneous matter 1% max.

Volatile oil 15% min.

Composition (usual range): moisture 6–8%; protein 5–7%; fat 20–21% (not less than 15%); carbohydrate 61–62%; fiber 9–10% (not more than 10%); ash 5–6% (not more than 7%); not less than 12% quercitannic acid; not more than 0.5% acid-insoluble ash; aromatic steam-volatile oil 17–21% (ground spike loses oil on storage); fixed oil 5–10% (primarily stearic acid)

See Part 2: Essential Oils; Flavoring Agents, Natural; Flavor Ingredients, Taste and Flavor Type; Spices, Microbial Content

2) Segment of a bulb, e.g., a clove of garlic that is one-half the sphere sections of the garlic bulb

clove-bud oil A colorless to yellow liquid obtained by water or steam distilling the clove bud; superior in flavor to the other two clove oils

Contains:

Eugenol 70–95%

Eugenol acetate 17%

Beta-caryophyllene 5–12%

See **clove oil**

clove-leaf oil A dark brown to pale yellow volatile oil steam-distilled from the whole leaves and twigs of the clove tree (*Eugenia caryophyllata*); used as a food-flavoring agent; contains eugenol (80–88%)

Storage: full, tight, glass container in a cool, dark place

See **clove oil**

Export standards

Source and quality	Moisture (max. %)	Stems, mother cloves (%)	Khoker cloves (%)	Extraneous matter (%)	Headless clove (%)
Malagasy Republic					
General (tout-venant)	16	5		1	20
Prime	16	2		0	2
Standard (courant)	16	5		0	
Superior	16	3		0	3
Zanzibar					
Distillation	14	5	20		
		(and extraneous matter)			
Special	14		2		
Standard	14	4	4		
		(and extraneous matter)			

188 clove oil

clove oil A colorless to light yellow to light brownish yellow, natural essential oil steam-distilled from the buds, stalks, and leaves of the clove plant (*Eugenia caryophyllata*); used for making vanillin and as a clovelike flavoring agent in food

	Bud	Leaf	Stem
Optical rotation	-1°30' to 0°	-2° to 0°	-1°30' to 0°
Refractive index at 20°C	1.527-1.538	1.531-1.535	1.534-1.538
Specific gravity (g/ml)	1.038-1.060	1.036-1.046	1.047-1.057

Storage: full, tight container in a cool, dark place

clove oleoresin Obtained by extraction (often using acetone, benzene, or alcohol) of the spice with organic solvents; contains 70-92% volatile oil

clover Many members of the pea family with trifoliate leaves and flowers with a dense head; used as forage; 60 lb seed/bu; seed 6 qt/acre

Alsike (*Trifolium hybridum*)

Alyce (*Alysicarpus vaginalis*)

Berseem (*T. alexandrinum*)

Clustered (*T. glomeratum*)

Crimson (*T. incarnatum*)

Lappa (*T. lappaceum*)

Large hop (*T. campestre*)

Red (*T. pratense*)

Rose (*T. hirtum*)

Shaftal (*T. resupinatum*)

Strawberry (*T. fragiferum*)

Subterranean (*T. subterraneum*)

Tick (*Desmodium* spp.)

White (*T. repens*)

Yellow suckling (*T. dubium*)

Popular types:

Alsike or Swedish (triennial)

Crimson (annual)

Red (biennial)

White (perennial)

See Part 2: Seed Germination

clover-root oil A pale yellow oil obtained by steam-distillation of clove roots; contains eugenol (85-96%)

clove-stem oil A volatile white oil (darkens on ageing) steam-distilled from the dried peduncles or stems of the spice (*Eugenia caryophyllata*); used as a clove-like flavoring agent in food; contains eugenol (83-95%)

Storage: full, tight container in a cool, dark place

See **clove oil**

club See Part 2: Beef Cuts and Uses; Beef Retail Yield; Broiling Meat

club cheese (snappy cheese) A cheese made from cheddar and pimientos and often blended See **cold-pack cheese; potted cheese**

club root A foul-smelling disease of brassicas (mustard)

club sandwich A sandwich containing bacon, turkey or chicken, lettuce, mayonnaise, and sometimes tomato between slices of toast; may be either two or three "decks," and served open or closed

club soda (aerated water; carbonated water) Flavorless and colorless and is used as a mixer

club steak (rib steak; top loin) Steak cut from the rib end of the short loin, located in front of the T-bone steak; contains no tenderloin muscle

Clum Forest A small, very prolific, speckle-faced breed of English sheep

clupanodonic A fatty acid

See Part 2: Fatty Acids, Fats and Oils; Fatty Acids and Their Properties; Unsaturated Fatty Acids

cluster bean (guar; *Cyanopsis tetragonolobus*) A drought-tolerant legume whose green pods are used as vegetables; grown as a green manure and fodder crop; mucilage is extracted from the seed.

clutch A nest of eggs; an egg-laying pattern in which a hen will lay one egg per day for one or more days in succession and then take a rest period, followed by another clutch

Cm Symbol for the element curium

cm See **centimeter**

cmc See **carboxymethylcellulose**

CMI Can Manufacturers Institute

Co Symbol for the element cobalt

co- Prefix meaning with or together

CO₂ See **carbon dioxide; dry ice**

coagulant A substance capable of removing colloidal material

coagulase An enzyme that induces coagulation
See Part 2: Microbiological Media

coagulated Describes material that has changed from a fluid to a thick mass; congealed; curdled; clotted

coagulation (clotting) Aggregation (curdling, clotting) of protein macromolecules into clusters or clumps of semisolid material; may be initiated by heat (egg white), by a change in pH (milk), or by enzymatic activation (blood). The change (denaturing) is usually irreversible.

coal A mineral comprised of about 90% carbon; used as fuel and source of coke and coal tar

Type	Hardness	Flame	Smoke	lb/ft ³
Anthracite	Hardest	Slight, blue, strong heat	Little	53
Bituminous	Soft	Burns freely	Pitchy	48
Cannel	Bituminous but harder		Little	

1 lb Equivalents	Pounds of bituminous coal briquettes
Coke	0.90
Crude petroleum and shale oil	1.30
Electric (kilowatt-hours)	0.125
Gasoline and fuel oil	1.50
Lignite and brown coal	0.33
Lignite briquettes	0.67
Manufactured gas (m ³)	0.60
Natural gas (m ³)	1.33
Pitch coal and black lignite	0.67
Refinery gas (m ³)	1.67

See Part 2: Fuel, Heating Value

coalfish (*Pollachius virens*) A dark, pollack-type, saltwater, food fish that is similar to the cod; available fresh or salted and smoked *See* **pollock**

coalition A combination of organizations and groups working together to influence a government decision

coal tar Contains aromatic hydrocarbons, phenol bodies, and organic bases *See* **petroleum**

coal-tar dye A synthetic food-coloring additive derived from petroleum and identified by assigned initials, the shade, and a number, e.g., FD & C Red No. 40

coarse 1) Describes a harsh flavor (of wine). 2) Large particles; not fine

coarse grain *See* **feed grains**

coarse hominy *See* **hominy**

Coastal Bermuda A variety of Bermuda grass used for pastures

cotepec *See* **Mexican altura**

coating 1) Covering with flour, crumbs, or a wheat product and egg batter or other dry ingredients before frying. 2) A natural, hard, cellulosic layer on a seed or fruit. 3) A film on tongue and teeth often caused by tannins and the protein of saliva. 4) A thin layer of material applied to a product either mechanically or by dipping, as chocolate on candy or casein solution on paper
See Part 2: Coatings

coating weight The weight of a coating in milligrams per 4 square inches

coax An intermediate step performed in preparation for the next step

cob 1) The fibrous, inner portion of the ear of corn (maize) from which the kernels have been removed; used for smoking meats and as fuel in some agricultural areas. 2) A short-legged horse *See also* **hazel**

cobalamine (cobalamin) Vitamin B₁₂, which cures pernicious anemia; contains trivalent cobalt *See* **vitamin B₁₂**

cobalt (Co) A metallic element; at. no. 27; at. wt. 58.94; Group VIII of the Periodic Table; oxidation states +2, +3; electron configuration 2-8-15-2 orbit K L M N

It is necessary for hemoglobin formation and is an essential part of vitamin B₁₂.

See Part 2: Grain Analysis; Normal Solutions; Wheat, Minerals

cobalt carbonate (CoCO₃) Sometimes used in animal feed
Composition: dry matter 99%; sulfur 0.2%; cobalt 45.5%; iron 0.05%

cobbler 1) A deep-dish pie (usually fruit) with a top crust; may or may not have a bottom crust. 2) A sweet, alcoholic, cold fruit drink. 3) A whiskey-, rum-, wine-based drink

cobia A finfish with white meat and light to moderate flavor

cobnut (*Corylus avellana*) A type of hazelnut, very similar to a filbert *See* **filbert**; **hazel**

Cobol (common business-oriented language) A programming language designed for business applications

coburg A round French bread

coca The dried leaves of a shrub from which cocaine is produced; also used in cola drinks (cocaine is removed)

coca plum (coco; icaco; icaque) A white-fleshed, insipid plum that may be eaten raw or dried

coccarboxylase A coenzyme (C₁₂H₁₉ClN₄O₇P₂S · H₂O) *See also* **thiamin pyrophosphate**

-cocc- A syllable meaning seed or pill

cocci A subdivision of bacteria whose shape resembles that of a sphere (Greek, berry); usually gram-positive

1. Diplococcus—occurs in pairs

2. Micrococcus (staphylococcus)—resembles a cluster of grapes

3. Streptococcus—resembles a string of beads

See Part 2: Bacteria, Molds, and Yeasts

coccidia Organisms that are (usually) intestinal parasites

coccus (berry) A spherical bacterium

coccygeal vertebrae The vertebrae of the coccyx, or tailbone *See* **caudal vertebrae**

See Part 2: Bone

Cochin An Asiatic class of chickens that has feathered shanks, yellow skin, and long feathering and that lay a brown egg

Varieties: buff*; partridge*; white*; black* (where an asterisk indicates there are also bantam varieties)

See Part 2: Poultry Breeds and Varieties

cochineal A purplish red coloring matter (with no taste or odor) made from dried bodies of the insect *Coccus cacti*

See Part 2: Unsaturated Fatty Acids

cochineal extract A food color additive

cock (old rooster) Mature male chicken over 10 months of age; has a hardened breast bone, coarse skin, and toughened and darkened meat and is cooked by stewing, steaming, or braising *See also* **rooster**

cocked base plate A base plate on a can-sealing machine that is not parallel with the seaming chuck and creates a body hook of uneven length

cocked cap An unlevel cap caused by the cap lug not being properly seated under the glass lug

cockerel A young cock; male fowl *See also* **toms**

cockle 1) A small marine bivalve mollusk (*Cardium edule*) similar to an oyster; a shellfish; 20% edible (10-12% protein)

Types (common name and species):

Atlantic (*C. edule*)

Pacific (*C. corbis*)

Knotted (*C. tuberculatum*)

Spring (*C. aculeatum*)

190 cockle

Available live, fresh, salted, in brine, and vinegar-cured. 2) A weed

cocklebur (*Xanthium pensylvanicum*) An annual weed having a toxic principle
See Part 2: Poisonous Plants

cockroach A pest; an insect that may carry disease-causing organisms

Problem	Caused by
Dysentery	<i>Entamoeba histolytica</i>
Food poisoning	<i>Salmonella enteritidis</i>
Food poisoning	<i>S. oranienburg</i>
Food poisoning	<i>S. typhimurium</i>
Gastroenteritis	<i>Escherichia coli</i>
Tuberculosis	<i>Bacillus tuberculosis</i>
Worms	Hookworms, roundworms

Types:

American—lives in drains, sewers, and damp dirty places

German—lives in warm, moist places

cockroach, American (palmetto bug) Can live outdoors in the South; often found in basements in the North

cockroach, German The most common cockroach; produces 35,000 offspring/year

cockroach, smoky brown An insect that lives outdoors in firewood piles, tree knotholes, and mulch; will move indoors

cocktail 1) A dish that may be made from fruits, vegetables, fruit or vegetable juices, or seafood products and that is served at the beginning of a meal as an appetizer. 2) A short, iced drink usually used as an appetizer and made with one or more alcoholic liquors and numerous flavoring ingredients, usually including bitters

Party—3–4 drinks per person

Predinner—2–3 drinks per person

3) Fruit used as the first course of a meal. 4) Seafood used as the first course of a meal. 5) Fruit juices used as the first course of a meal

cocktail frank A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned beef, pork, and veal stuffed into pork, sheep, or artificial casings and packed in brine solution. A batter-type product available in medium- to large-diameter links or large-diameter casing for slicing See **cocktail frankfurter**; **cocktail wiener**

cocktail frankfurter A small frankfurter, usually 2 in. long and $\frac{1}{2}$ in. diam. See **cocktail frank**; **cocktail wiener**

cocktail glass 1 glass = 2 oz

cocktail sauce A sauce made with peppers, tomato, etc., usually served with seafood cocktails
See Part 2: French Dressing Variations

cocktail wiener A smoked, cooked, ready-to-eat sausage similar in flavor to frankfurters; may also be called Vienna sausage See **cocktail frank**

cocktailworst A moist, cooked, smoked Dutch sausage made from finely chopped, medium-seasoned

beef and pork stuffed into a sheep casing or not stuffed into a casing

coco See **coca plum**

cocoa (cacao; *Theobroma cacao* strains *criollo*, *forastero*, and *trinitario*) A small (20–30 ft), broadleaf evergreen tree (cacao) that produces long yellow or red (ripe) pods (3 × 8 in., 1 lb, 30–40 pods per tree) containing 20–50 white to purple beans per pod encased in white mucilage. Trees yield 200–3000 lb cocoa beans per acre; beans ripen in 5–6 months. The beans and mucilage are fermented (2–9 days), roasted, and ground, the fat is removed, and a water extract is prepared; the dull red beans are dried to 6% moisture (several days), shelled (waste material or fertilizer), roasted, and ground. Cocoa is made in much the same manner as chocolate except some of the fat is removed and the final product is ground; it contains less than 8% fat. The bean contains 50–57% cocoa butter (fat).

1 sack of dried beans = 130–200 lb

Terms:

Breakfast, or high-fat, cocoa—min. 22% cocoa butter

Chocolate—extra cocoa butter, sugar, and milk added

Chocolate liquor—50% fat and in the forms bulk, slab, kiddled, and ribbon

Cocoa (drinking)—cocoa butter removed

Cocoa butter—separated from chocolate liquor by pressing

Cocoa presscake (10–25% cocoa butter)—the portion remaining after chocolate liquor is pressed

Cocoa powder (2 or 7% to 24 or 35% fat, 4–5% moisture)—obtained by grinding cocoa presscake

Dutching (alkalizing)—color becomes darker and flavor milder; permits cocoa to be more evenly distributed in milk or water

Instant—cocoa, sometimes chocolate, powdered skim milk, and sugar

Medium-fat cocoa—max. 22% cocoa butter

Nib—cotyledon

Nib grinding—by grinding, nibs are converted into chocolate liquor

Pressing—separates cocoa butter from powder

Pulverized bean (cacao)—part of the cocoa butter has been removed

Sweet—breakfast cocoa (40%) and sugar (60%)

Sweet milk—breakfast cocoa mixed with sugar and at least 12% whole milk solids

Winnowing—separation of shells from nibs

Equivalents:

$\frac{2}{3}$ oz cocoa = 1 oz chocolate

2–3 $\frac{1}{2}$ tbsp cocoa + $\frac{1}{2}$ tbsp butter = 1 oz, or one square, of chocolate

4 cups = 1 lb

1 lb = 100 servings

1 cup = 3 oz

4 tbsp = 1 oz

$\frac{1}{4}$ cup = 1 oz (28 g)

Composition (without milk): moisture 1–4%; protein 4–9%; fat 2–22%; carbohydrate 31–89%; ash 2%; pH 5.2–5.9 (alkalized product 6.5–8.1); 10 mg caffeine/6-oz drink; 220 calories per cup

To remove stain from cloth: first prewash in cold water, if necessary use pretreatment spray or clean-

ing fluid, bleach if needed and second soak in warm water with enzyme product

See also cacao

See Part 2: Cocoa, Composition; Cocoa Cultivation; Food, Composition; Minerals, Food; Minerals (Trace), Limits; Wastes, Agricultural and Industrial

cocoa blanco A sun-dried cheese that is coated with rancid butter, coffee grounds, and ground cocoa-bean shells

cocoa butter (cacao butter; theobroma oil) Fat expressed from cacao bean

Properties:

Iodine no. 32-40

Melting point 28-33°C

pH 6.6

Refractive index (60°C) 1.449-1.451

Saponification no. 188-202

Specific gravity 0.950-0.975

Acid composition: myristic 0.5%; palmitic 25%; stearic 35%; oleic 37%; linoleic 3%; linolenic 0.5%

Used for confectionery, soaps, and pharmaceutical products (suppositories)

See Part 2: Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils

cocoa hulls Used as a mulch and cattle feed

cocoa, instant Store at room temperature (below 70°F, shelf life 1 yr).

cocoa nibs Broken kernels of the cacao bean

coco de mer A very slow-growing double coconut

coconut (cocoanut; *Cocos nucifera*) The hard-shelled nut of a palm that grows in tropical lowlands; begins fruiting in 6-9 yr; 50 nuts per year per tree; 23 lb copra per year per tree; originally from eastern and southeastern Asia

Tree growth requirements: fertilization to mature fruit 12-14 months; flower and mature fruit once per month; rainfall 60-80°F; temperature range 75-86°F; tree will bear for 70-80 yr

Parts of plant and their uses:

Coconut milk—a thick liquid obtained by squeezing coconut flesh

Husk (coir)—2-3 in. thick; ropes and coconut matting

Leaves—house thatching

Meat (copra)—residue after oil extraction (oil cake); livestock feed

“Milk” (coconut juice)—from unripe fruit; used as a drink; contains sugar and oil

Palm trunk—building timber

Roots—tea and coffee substitute; fuel

Tree sap—fermented to form palm wine

Types:

Desiccated coconut—dried and grated meat

Domestic

Short shred

Medium shred

Long shred

Fine-grated, desiccated

Flaked

Partially domestic (reprocessed)

Short shred

Medium shred

Long shred

Ready-toasted

Forms	Shape	Sweetened	Pack
Chipped	Thin, broad chips, 2 in. long		
Desiccated	Small coarse particles		
Macaroon	Very small particles		
Shred	Shorter thread	Yes	Dry; moist
Thread	Long thread	Yes	Dry; moist

Refuse: 37%

1000 lb coconuts

= 500 lb copra

= 25 gal oil

= 170 lb desiccated or shredded coconut

1 lb unshelled coconut

= 8.3 oz shredded coconut

= 3 cups shredded coconut

1 lb = $5\frac{1}{3}$ -8 cups shredded coconut

1 cup shredded coconut = $2\frac{1}{3}$ -3 oz (80 g)

2 × 2 × 0.5, meat only = 1.6 oz, fresh

1 cup, shredded, firmly packed = 4.6 oz, fresh

1 cup, shredded, lightly packed

= 2.9 oz, fresh

= 3.2 oz, dried, canned

1 cup liquid from coconut = 8.5 oz fresh

1 cup, flaked = 2.6-2.7 oz, dried, canned

Fresh coconut contains 50% oil; shredded, 41% oil; 2 tbsp fresh shredded coconut contain 55 calories.

To remove shell: Make a hole through one of the “eyes;” drain and save milk; heat in a 350°F oven for 10-30 min; cool in freezer for 1 h and tap with a hammer; remove brown skin; grate meat (endosperm).

Storage (of milk): refrigerate; use within 24 h or freeze
See palm

See Part 2: Beans, Peas, and Nuts; Coconut, Amino Acids; Flavor Ingredients, Taste and Flavor Type; Fruit Classification; Minerals, Food; Oils and Fats, Composition; Oils, Seed and Fruit; Plant Foods, Composition; Protein Factors; Pulses, Nuts, and Seeds, Composition; Storage; Unsaponifiable Matter

coconut custard pie One-eighth of a 9-in. pie contains 250 calories.

coconut, desiccated Coconut with reduced moisture content; will keep for 1 month without refrigeration

coconut kernels with coats (copra meat)

Composition	Mechanically extracted	Solvent- extracted
Dry matter (%)	92	91
Protein (%)	21	21
Fiber (%)	12	14
Fat (%)	6.4	3.5
Ash (%)	6.8	6.0

coconut liqueur A liqueur flavored with coconut

coconut meat Endosperm of coconut

192 coconut meat

Composition	Dried		Fresh
	Shredded	Unsweetened	
Moisture (%)	3	3	51
Protein (%)	4	7	3
Fat (%)	39	65	35
Carbohydrate (%)	53	23	9
Ash (%)		1.5	1

coconut milk 1) A smooth, rich, milky liquid pressed from the meat of fresh coconuts; used in sauces, desserts, and beverages; available in cans or can be made from fresh coconuts. 2) Water from inside the coconut *See* **coconut**

coconut oil (copra oil) A nondrying, highly saturated, white, very stable oil, with no characteristic flavor, that is pressed from the kernel, or coconut meat, of the coconut palm

	Fatty acid carbons	Unhydro- genated	Hydro- genated
Saturated			
6	0.2	Trace	
8	5-8	8	
10	7	7	
12	45-48	48	
14	17-18	18	
16	9-10	10	
18	2-7	10	
Monounsaturated			
18	6	Trace	
Polyunsaturated	2	Trace	

Acid number (unhydrogenated) 0.01

Iodine value 7-10 (unhydrogenated), 23 (hydrogenated)

Melting point 37-39°C (unhydrogenated), 25°C (hydrogenated)

Saponification value 250-260 (unhydrogenated and hydrogenated)

Specific gravity 20°/4°C 0.9226 (unhydrogenated)

Titer 20-24°C (unhydrogenated)

Unsaponifiable < 0.5% (unhydrogenated)

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Melting Points, Fats and Oils; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Titer, Fats and Oils; Tocopherols

coconut oil cake (copra meal) Ground cake after oil extraction of copra; used for livestock feed
Composition: moisture 5%; protein 23%; fat 8%; fiber 9%

coconut pie Composition:
Cream 104 mg Na/ $\frac{1}{8}$ pie (66 g)
Custard 194 mg Na/ $\frac{1}{8}$ pie (71 g)

coconut water (coconut juice; coconut milk) The liquid from the interior of the coconut
Composition: moisture 90-94%; protein 0.3-0.5%; fat 0-0.2%; carbohydrate 5-9%; ash 0.6%

cocoyam The large, edible tuber of a perennial plant

cocuy An herb liqueur made from sisal roots

COD 1) Cash on delivery. 2) *See* **chemical oxygen demand**

cod 1) The scrotum after removal of testicles on a steer; it usually contains fat. 2) A saltwater finfish (*Gadus callarias*) with very light, tender white meat and mild delicate flavor; may be used fresh, salted, or smoked; dry salt cod must be soaked to remove some of the salt to be palatable. The liver is a source of oil and vitamins.

Atlantic—A saltwater fish of the North Atlantic; weight ranges from 3 to 20 lb; flesh is white, firm, and lean.

Pacific—weight ranges from 5 to 10 lb; mild flavor and tender, soft, white meat

Composition: protein 17.6%; fat 0.3%

See also **codfish; demersal fish**

cod-burbot A codlike freshwater fish

coddle (soft cook) To cook slowly and gently; to cook (170-180°F) below the boiling point, as of eggs

coddling moth An insect pest whose hosts are apple, pear, quince, crab apple, English walnut and other fruit

Damage: worm in apple; entrance and exit holes

Control: insecticide spray

codeguin A moist, uncooked, unsmoked Argentinean sausage made from coarsely chopped, medium-seasoned (with cinnamon, vanilla, cloves, ground garlic, white vinegar, and white pepper) beef, pork, and corn flour in a pork casing

codeine (C₁₈H₂₁NO₃) A narcotic alkaloid derived from morphine (poppy) and used for relief of coughs; allergic reactions may occur.

codequin A moist, cooked, smoked Brazilian sausage made from medium-chopped, medium-seasoned beef and pork stuffed into beef casings

Codex *See* **Committee of Food Protection of the National Academy of Science-National Research Council**

Codex Alimentarius A group formed to set up food standards to be used in international trade; works cooperately with FAO and WHO

cod fat A large piece of fat on the flank of both steers and heifers

codfish [cod; scrod (baby)] A soft-finned, lean, saltwater food fish caught in the Middle Atlantic and Pacific coasts

Atlantic (*Gadus callarias*, synonym *G. morhua* Linnaeus)

Cabillaud—fresh cod

Dry—salted and dried

Green—salted but not dried

Greenland (*G. ogac*)

Korean—See **pollock** (Alaska)

Ling (*Ophiodon elongatus*)

Offshore—deep-water cod

Pacific (*G. macrocephalus*)

Polar (*Boreogadus saida*)

Poor (*Trisopterus minutus*)

Rock—shallow-water cod

Stockfish—dried but not salted

Wachna (*Eleginus navaga*)—North Atlantic

Wachna (*E. gracilis*)—North Pacific

Market forms:

Bits—small pieces of salted boneless tissue

Middle—thick chunks of salted boneless tissue from the middle of the fish

Precooked—unsalted, boneless

Ready-to-use—boneless; used like salmon

Strip—thick pieces of salted, practically boneless tissue from the side

Tablets—strips ($6 \times 3 \times 1\frac{1}{4}$ in.) made up of 2–3 pieces of boneless tissue

Market classifications:

Snapper—up to $1\frac{1}{2}$ lb

Scrod—1.5–2.5 lb, less than 50 cm

Market—2.5–10 lb, 50–75 cm

Large—10–25 lb, 75–100 cm

Whale—over 25 lb, over 100 cm

Yield: 43%

Composition (muscle): moisture 81%; protein 16–18%; fat 0.3%; ash 1%; pH 6.0

Available raw, canned, dehydrated, dried and salted, and frozen

Cakes (balls) made from the following:

100 lb salt codfish

125 lb potatoes

10 lb onion

13 lb beef tallow

6 oz pepper or other spices

Usually fried and served hot. See **cod**

See Part 2: Fish and Shellfish, Composition; Fish, Smoke-Cured; Fish, Storage; Frozen Food Storage; Glutamate; Minerals, Food; Riboflavin, Food; Thiamin, Food; Unsaponifiable Matter; Vitamin A, Fish; Vitamin D, Fish; Vitamin D, Food; Water Activity, Organisms and Food

coding Embossing a code number or marking as a means of identification. See **commodity code**; **container code**; **container specification code**

codispensing Dispensing two components and mixing when they are ejected

codling (jossler) A small cod (under 63 cm long)

codling moth (*Laspeyresia pomonella*) An insect; the adult is a grayish brown moth with brown wing

tips and $\frac{1}{2}$ - to $\frac{3}{4}$ -in. wing span; the larva is white or pink with a brown head and is up to $\frac{1}{2}$ in. long; young larvae burrow into fruit (e.g., pear) and cause wormy apples and blemishes or "stains" on the skin.

cod-liver oil Oil expressed from livers of fish species of the family *Gadidae*

Properties:

Iodine no. 135–180

Refractive index (15.5°C) 1.479–1.485

Saponification no. 180–190

Specific gravity 0.922–0.930

Vitamin A 400–4000 IU/g

Vitamin D 40–400 IU/g

See Part 2: Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Titer, Fats and Oils; Unsaturated Fatty Acids; Vitamin A, Food

coefficient of determination This is the correlation coefficient squared (r^2) and it indicates how much of one trait is associated with another; e.g., if X and Y are correlated at 0.8, then $r^2 = 0.64$, or 64% of the differences in Y is associated with X

coefficient of digestibility The percentage of protein (75–97%, varies with the food, 92% avg.), fat (90–95%, 95% avg.), and carbohydrate (85–98%, 98% avg.) that the body can absorb from food; a measure of digestibility expressed as a percentage

coefficient of digestibility

$$= \frac{(\text{quantity ingested food}) - (\text{quantity in feces})}{\text{quantity in ingested food}}$$

coefficient of variation (C) A measure of variation of observations that has been adjusted for sample magnitude so that variation between samples with different magnitude can be compared

$$C = \frac{s}{\bar{x}}$$

s = estimate of standard deviation (σ)

\bar{x} = sample mean

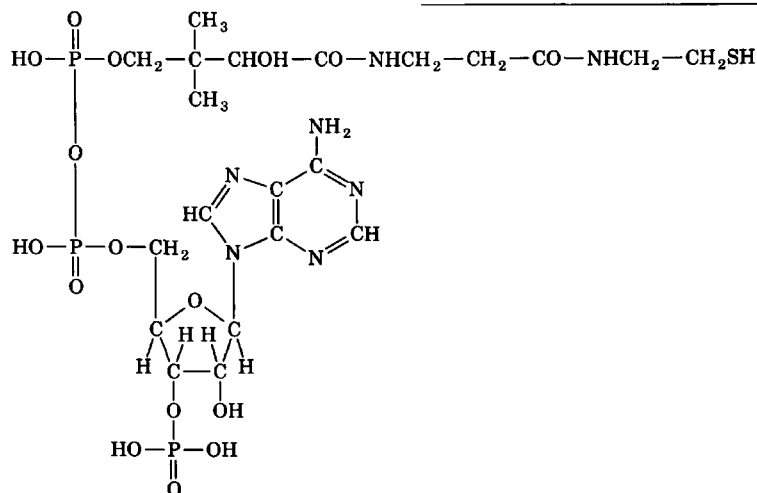
Sometimes expressed as a percentage:

$$\frac{\sigma}{\bar{x}} \cdot 100 = \%$$

coenzyme (enzyme activator) A substance, often containing a vitamin, that is required by some enzymes in order to catalyze their reaction; a complex organic compound (nucleotide) that combines with and activates an enzyme system; an essential factor in such biochemical transformations as cellular oxidation, the Krebs cycle, and vitamin activation. See also **prosthetic group**

194 coenzyme A

coenzyme A



coenzyme I (CoI; cozymase; DPN) See **diphosphopyridine nucleotide**

coenzyme II (CoII; TPN) See **triphosphopyridine nucleotide**

coenzyme R See **biotin**

coeur à la crème A molded sweet dish made from cream cheese, cream, egg white, and sugar

coeur d'Arras A strong-flavored, heart-shaped cheese made from cow's milk

coeur de Bray A heart-shaped (100–300 g) camembert-type cheese, made from cow's milk, that is usually matured 3 months

coeurmandie A heart-shaped (2 kg) camembert-type cheese made from cow's milk

cofactor A metallic ion necessary for enzyme activity

coffee (*Coffea arabica*; *C. liberica*; *C. robusta*)

1) The berry (cherry), bean, or seed of the evergreen coffee tree or the bean obtained from the fermented "cherry" of a coffee shrub (*Coffea*), originally from tropical Africa; must be roasted (230–250°C) before using as a drink; a tropical plant whose beans are roasted, ground, and brewed in hot water to yield a stimulating nonalcoholic drink; 1½ lb green dried beans per tree; several species are used:

C. arabica—a small tree that bears a green berry that turns red when ripe; each berry contains two beans

Mild coffee—berry opened by a machine; beans fermented in water and sun-dried; bean retains parchment skin

Hard coffee—sun-drying whole berry and removing pump by machine; parchment skin removed

C. canephora—yields a smaller bean; known as *robusta*

C. liberica—very robust

Origin	Name
Angola	Ambriz
Arabia	Mocha
Brazil	Santos, paranas, minas, rios
Colombia	Medellins, armenias, mamizales (MAMs)
Congo	Oicru
Ethiopia	Djimmas, harrars
Guatemala	Antiguas
Hawaii	Kona
Honduras	Copans
Mexico	Coatepecs, oaxacas, tapachulas

Color classification:

Light roast
Medium roast
Dark roast
Italian or French roast

Roasting name	Color	Roasting time
Light, cinnamon	Light	Short
Standard, American		
Full, full city		
Viennese, New Orleans		
French, Cuban		
Italian, espresso	Dark	Long

Roasting: 400°F internal temperature to develop aroma and taste; 10–12% moisture removed; caramelization of sucrose; pyrolysis of carbohydrate and protein; 16% weight loss

Grinding: to facilitate water extraction; sizes—regular (1 mm); drip (0.75 mm); fine (0.38 mm)

Terms:

Blend—a mixture of varieties to give desired beverage

Peaberry coffee—an almost round berry (1 per pod) usually produced on the top of the bush

Steel-cut—ground by a special steel cutting machine that also removes the chaff

Quantity:

1 bag = 132.28 lb

1 bag (El Salvador) = 152.12 lb

Regular:

1 lb = $4\frac{1}{2}$ – $5\frac{1}{2}$ cups

= 70–80 tbsp

= 40–60 six-oz cups

1 cup = 85 g (3.0 oz)

1 serving, regular grind = 1.5 tbsp

Instant:

10–12 cups = 1 lb

1 cup = 40 g (1.4 oz)

1 lb yields 480 cups

Yield [for 50 people (2 cups each)]: 6 oz instant coffee to 4 gal water; steep for 5 min; 40–50 servings = 1 lb regular coffee and 1 qt cream

2) A beverage made by infusion (185–203°F, 85–95°C) of roasted, ground coffee beans

To remove stain from cloth: If coffee contains cream, spray with cleaning fluid, soak fresh stain in cool water, soak in warm water with enzyme product, and then wash.

Composition	Mocha	
	Green	Roasted
Caffeine (%)	1.3	1.3
Water extract (%)	31	30
Fat (%)	14	14
Protein (%)	9	10
Fiber (%)	22	15
Ash (%)	4	4
Moisture (%)	9	3

Caffeine content:

Brewed—83 mg/6 oz

Drip method—110–150 mg/5 oz

Percolated—64–124 mg/5 oz

Decaffeinated—3 mg/6 oz, 2–5 mg/5 oz

Instant—60 mg/6 oz, 40–108 mg/5 oz

Instant decaffeinated—2 mg/5 oz

Beverage coffee has no nutritional value; stimulating value 1.1–1.2% caffeine

	Storage limits	
	Bean	Ground
Room temperature	3–4 weeks	7–10 days
Refrigerator	Do not store	3 weeks
Freezer	3 months	

See also caffeine

See Part 2: Coffee Berry; Coffee Composition; Coffee Granule Designation; Coffee Particle Size; Coffee Yield; Minerals, Food; Minerals (Trace), Limits; Portion Size; Wastes, Agricultural and Industrial

coffee bean The seed or bean of the coffee tree (*Coffea arabica*)

See Part 2: Poisonous Plants

coffee blend A mix of two or more coffees to obtain a desired aroma, body, flavor, and taste

coffee cake Refers to several styles:

Apple—a round, flat cake topped with apple, raisins, sugar (powdered) and syrup

Braided—a ring-shaped cake with vanilla icing

Filled—a ring-shaped cake filled with citron, lemon peel, nuts, and orange peel

Form—filled with citron, ground almond, lemon peel, and mace

Honey—a round, flat cake topped with honey, butter, and ground almonds

Stollen—rich in

Cherries

Citron

Lemon peel, candied

Orange peel, candied

Raisins

Streusel—a square, flat cake topped with crumbly streusel (whose ingredients are sugar, butter, flour, and spices)

See Part 2: Grain Products, Composition

coffee creamer 1) A container to hold cream (coffee cream is 16–30% fat). 2) Coffee whitener (a more modern term), usually made from corn syrup solids, casein, vegetable fat, sodium caseinate, emulsifiers, and gums; can also be a nondairy whitener

See Part 2: Cultured Dairy Products, Composition

coffee, decaffeinated Coffee from which approximately 97% of the caffeine has been extracted

coffee, Gaelic A beverage containing coffee, whiskey, and thick cream

coffee, instant (coffee, soluble) Made from concentrated liquid coffee from which the water has been evaporated

Storage: room temperature (below 70°F, shelf life 1 yr)

coffee liqueur A liqueur flavored with coffee

coffee liquid Concentrated (to one-tenth the original volume) liquid coffee

1 lb = 40 cups

coffee substitutes Roasted beans, chicory roots, dandelion roots, figs, and grains

coffee, Turkish A thick coffee made by boiling pulverized coffee beans, sugar, and water

coffee whitener (nondairy) Imitation, nondairy, fabricated cream and half-and-half substitutes; they are generally made from vegetable oil, carbohydrate, and a low level of protein; the term can also include cream; the liquid (frozen) form contains hydrogenated vegetable oil and soy protein or lauric acid oil and sodium caseinate

Composition	Liquid (frozen)	Powdered
Moisture (%)	77–78	2–3
Protein (%)	0.9–1.1	4–5
Fat (%)	9–10	35–36
Carbohydrate (%)	11–12	54–55
Fiber (%)	0	0
Ash (%)	0.3–0.4	2–3

See Part 2: Coffee Whitener, Composition

cognac A brandy (distilled wine) from the Cognac region of France; letters on bottles have the following meanings: E, especial; F, fine; O, old; S, superior; P,

pale; X, extra; V, very; C, cognac. Pure wine brandy distilled from fermented grape juice; 68–70% alcohol

Stars	Age
*	3 yr old
**	4 yr old
***	5 yr old

The best age is 20–40 yr old

Name and alcohol content:

Cognac—up to 72%

Esprit—72–84%

Alcoal—over 84%

See Part 2: Flavor Ingredients, Taste and Flavor Type

cognac oil, green (wine-yeast oil) Wine-yeast oil obtained by steam distillation of wine lees; has odor of cognac; sp. gr. 0.864–0.871; used as a cognaclike flavoring agent in food

Storage: full, tight container in a cool, dark place

cohesion The attraction between particles of the same substance

cohesive Describes a gummy, rubbery texture or a product that holds together on handling

cohesiveness A textural property related to the strength of bonds between structures

coho (*Oncorhynchus kisutch*) A type of Pacific salmon See also **salmon**

See Part 2: Salmon and Trout

cohobation A technique used in water or water-steam distillation to reduce the loss of the more water-soluble constituents in the distilled essential oils; it involves returning condensed water from the collection vessel back to the still

coho salmon A member of the trout family with orange-pink flesh and very rich flavor

cohune A nut obtained from a Central American palm; the oil contains 45% lauric, 17% myristic, and 10% oleic acids; it is edible and nondrying.

See Part 2: Iodine and Saponification Values

Cointreau A clear, after-dinner, cordial liqueur (alcohol content 40%) made from wine spirits and the peel of small green oranges

coir Coconut-husk fiber used for padding and fiber-type products; approx. 23% of the nut

coke A light substance that resembles charcoal; the residue of thermal decomposition (destructive distillation) of coal or petroleum; it is 90% carbon; one ton of coal yields about 0.7 ton coke.

COLA Cost-of-living adjustment

cola (kola) The kola nut or an extract prepared from it; used in beverages; nut contains 1.5% caffeine

100 lb per tree per year

40–72 mg caffeine/6-oz drink

1 oz cola-type beverage = 30.75 g
= 12 calories

See also **kola nut**

See Part 2: Beverage, Carbonated, Ingredients; Calories, Daily Recommendations; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage

colada An alcoholic beverage prepared as follows: Place in a shaker $\frac{1}{2}$ cup crushed ice, 1 jigger ($1\frac{1}{2}$ oz)

bourbon, 1 oz cream of coconut, 2 oz unsweetened pineapple juice; shake and pour into tall glass filled with ice cubes; add cherry.

colares A dark red wine that is rich in tannins

Colbeck EY agar See Part 2: Microorganism, Media

colby A deep yellow cheese with open, granular curd

colby cheese A hard (softer than cheddar), light yellow to orange cheese made from whole milk; cylindrical in shape, with mild to mellow flavor; ripens in 1–3 months by bacteria; used as a sandwich and snack cheese

Composition: moisture 38–39%; protein 21–24%; fat 31–32%; carbohydrate 2.5%; fiber 0%; ash 3–4%; salt 1.7% (171 mg Na/oz)

See Part 2: Cheese Characteristics; Cheese, Vitamin Content

colcannon A mixture of cabbage and potatoes cooked together

cold cuts Comminuted, cooked meat products that are often served without further cooking; sliced cold meat with or without cheese, e.g., bologna, salami

Storage: in original wrapper; refrigerate; use within 3–5 days of opening; unopened, 2 weeks

See Part 2: Storage Times

cold-pack A processing method in which raw, unheated food is placed in containers and covered with boiling syrup, juice, or water

cold-pack cheese (club cheese) A blend of fresh and aged natural cheese that is mixed without heating; the flavor is that of natural cheese but the texture is softer. A cheese made by mixing two or more types of cheese with water, vinegar, citric acid, herbs, and spices

cold-pack cheese food Similar to cold-pack cheese but also includes other dairy products and sweetening agents and has a higher moisture content.

Composition (American): moisture 43.1%; protein 19.7%; fat 24.5%; carbohydrate 8.3%; ash 4.4%

cold shortening Occurs in meat subjected to rapid chilling, which causes muscles to contract; if the tissue goes into rigor in this shorter state, it will be much tougher than if chilled less rapidly.

cold slaw Cold cabbage See **cole slaw**; **slaw**

cold soap (semiboiled soap) A soft soap made from tallow and grease using a potash base; glycerin fraction remains in the soap; it is less harsh than boiled soap.

cold sterilization A process that uses irradiation to preserve food

cold storage Storage at refrigerated temperatures

cold test A test for evaluation of winterization of an oil. The oil is held in ice water and the time required for first cloudiness to appear is noted.

Time required for first cloudiness at 32°F:

A few hours—oil and solid will separate on low temperature storage

Minimum of $5\frac{1}{2}$ h—winterized salad oil

See **salad oil**; **winterization**

cold unit A drop of one degree (4-in. depth between 8:30 and 9:30 A.M.) below 49°F and above 28°F per day

cold-water vacuum test A method for checking the vacuum efficiency of a capper

cole Refers to members of plant species of the genus *Brassica* and specifically to collard; closely related, frost-tolerant vegetables such as cabbage, cauliflower, Chinese cabbage, collard, brussels sprouts, broccoli, kale, kohlrabi, and mustard See **cabbage group**; **kale**; **rape**

coleoptile The first leaf (seed leaf or primary leaf) in seedling of monocotyledon, which forms a protective sheath

See Part 2: Wheat Kernel; Wheat Kernel Parts

coleorhiza The sheath surrounding the radicle (primary root) that the roots grow through

See Part 2: Wheat Kernel; Wheat Kernel Parts

coleseed See **rape**

cole slaw A mixture of shredded cabbage and salad dressing or mayonnaise and many different varieties of seasoning

See Part 2: Portion Size

colewort See **collard**

coli A type of bacterium

See Part 2: Microorganism Reactions on Differential Tube Media

colic Cramps or abdominal pain often caused by swallowing air or gas or from bacterial fermentation

coliform Sievelike; resembling the *Escherichia coli*; coliform group—all aerobic and facultative anaerobic, gram-negative, non-spore-forming bacilli that ferment lactose and produce gas. This bacterial group is used as an indicator of fecal contamination. Most are not pathogens, but their presence suggests the possibility of enteric pathogens originating in the intestine. Good sanitation conditions are usually found when this type of bacteria is absent.

Culture media: brilliant green lactose bile broth 2%; EC medium; Koser citrate medium; lauryl tryptone broth; Levine EMB agar; MR-VP medium; tryptone broth; violet red bile agar

See Part 2: Egg Specifications; Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Microbiological Media; Microbiological Standards; Dairy; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

colin (colin-loui) Bobwhite quail

colitis Inflammation of the colon

collaborative study A study conducted before the designation of an analytical method as "official" by the Association of Official Analytical Chemists or other recognized authority; it involves a minimum of six participating laboratories that determine if a specific method will perform within a set of acceptable statistical requirements for analytical results (reported values); if successful, this results in the acquisition of "official" status for the method under study.

collagen Proteinaceous connective tissue of meat made up of parallel fibers that can be converted to gelatin (gelatinized) by boiling in water

See Part 2: Connective Tissue, Composition; Connective Tissue Proteins

collar 1) Meat from the neck region; English term for pork neck area in front of approximately the third thoracic vertebra. 2) Fat and skin remaining on trimmed hams and pork shoulders

collar can Type A—a key-open can that leaves a short skirt on the cover that fits over the outside of the collar on reclosure. Type B—a key-open can that removes a portion of the body under the double seam and allows the step to fit inside the curl on reclosure

collard (cole; colewort; collard greens; nonheading cabbage; *Brassica oleracea* var. *acephala*; *B. oleracea* var. *viridis*) Any green cabbage that does not form a compact head; a tall-growing kale; term sometimes applied to cabbage seedlings grown as greens; a kale whose leaf has a cabbage flavor and is used as food; a source of greens; plant 1 oz seed/100-ft row; 8000 seed/oz; thin to 18–24 in. apart in rows 1–3 ft apart; matures in 70 days

Variety	Growth habit	Leaf	Season
Cabbage-collard		Dark green heads short stems	80 days
Georgia	Nonheading, 33 in. tall	Large, blue-green	60 days
Green glaze			
Heading Morris			
Vates (Improved Georgia Type)	2–3 ft tall, compact	Slightly crumpled	65–80 days

Available canned and frozen

1 bu, fresh = 12 lb

= 8–12 pt, frozen

1 lb = 2 servings

1 pt, frozen = 1–1½ lb, fresh

1 cup, boiled, drained = 6.8 oz

Composition (raw): moisture 87%; protein 4%; fat 0.7%; carbohydrate 7%; ash 1.6%

Storage: Wash and drain; store in refrigerator crisper or plastic bag; use within 1–2 days.

See Part 2: Minerals, Food; Plant Foods, Composition; Planting Density; Vegetable Boiling; Vegetable Composition; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetable Yields

collar rot A disease caused by a fungus (*Phytophthora cactorum*) that forms cankers in the root and crown area of apple and pear trees, causing poor growth

Control: good drainage and less-susceptible rootstock

collective fruit See **multiple fruit**

coller Adding gelatin

Colletotrichum A type of mold

See Part 2: Mold, Food

colli albani A white wine produced in the region of Rome

colli lanuvini A white wine produced in the region of Rome

collins A family of alcoholic drinks made by mixing liquor or spirits with lemon or lime juice and carbonated or soda water

colloid A macromolecular dispersion; a particle whose size range lies between the lower limit of resolution of an optical microscope ($1\ \mu\text{m}$) and the size of an average molecule ($1 \times 10^{-3}\ \mu\text{m}$). Such particles are too large to pass through a parchment membrane, but they remain suspended in dispersions because they are too small to settle out by gravity. Colloidal systems may be of several types: solid in liquid (casein in milk); solid in gas (smoke); gas in solid or liquid (foam); liquid in gas (fog); liquid in liquid (emulsion), etc. Many protein molecules are of colloidal dimensions; when they form a coating on a fat particle, as in milk, they are called protective colloids. *See also* dispersed phase; continuous phase

colloidal clay (soft rock phosphate) Some may be used in animal feed

Composition: dry matter 99%; calcium 17%; phosphorus 9%; fluorine 1.5%; iron 1.9%

colloidal phosphate $[\text{Ca}_3(\text{PO}_4)_2]$ Calcium phosphate; a fertilizer material; 20% total P_2O_5

collops Pieces of meat

colmar *See* munster

Colocasia Tuberous-rooted aroids, e.g., the taro whose rootstock is an edible, starchy staple in the tropics and which can be fermented into poi; the leaves are used like cabbage
See Part 2: Vegetable Storage

cologne spirit *See* silent spirit

Colombian aged A smooth-bodied coffee with a sharp, tangy flavor

Colombian Excelso A Colombian coffee that has strong body, mellow aroma, and is smooth and rich-tasting

Colombian 5-Year Aged A very smooth, aged coffee

colombière A medium-flavored, semisoft cheese

colon The large intestine (4–6 ft long) from the ilium to the rectum

colonche A white, alcoholic, viscous beverage made by fermentation of the fruit of the prickly pear (*Opuntia*)

Colonial Bent (Rhode Island Bent; *Agrostis tenuis*) A grass used for pasture or lawns

colonial goose A stuffed and roasted leg of mutton

color (colour) Sensation of different wavelengths as perceived by the eye; often defined by hue, saturation, and brightness *See* colorant

Colorado hide A hide branded on rump or side

colorant Any substance that imparts color; broadly classified as either pigments or dyes, although the distinction is not precise, e.g., chlorophyll is an organic pigment and lakes are organic pigments precipitated on an inorganic base. Most food colorants (FD & C colors) are synthetic coal-tar dyes and lakes and require approval by the FDA before use. Many natural colorants are vegetable-derived, e.g., alkanet, annatto, carotene, chlorophyll, saffron, and tumeric. *See* coal-tar dye

See Part 2: Color Additive; Color, Meat; Colors Permanently Listed; Minerals (Trace), Limits

color, artificial Listed in ingredient list of all foods except butter, ice cream, and cheese *See* colorant

color, certified Synthetic dyes certified (by the FDA) for safety and purity for use in foods

colorimetric analysis An optical method of analysis in which concentration is determined by comparing light transmitted (a specific wavelength) through known concentrations of the compound with light transmitted through the sample

color index (CI) Colorants are given a color index number by the British Society of Dyers and Colorists that identifies an individual dye

color, lakes Oil-soluble alumina or calcium salts of synthetic colors

color, natural Food colors derived from natural materials

colorose *See* invert sugar

color wheel A device in which papers of various colors arranged in spectral sequence are placed as sectors on a disc; by spinning the disc, the colors appear to fuse and form a single color; used as a comparison for food color

colostrum Milk secreted in the first few days of lactation; it is high in proteins that contain immunoproteins (antibodies) that are directly absorbed into the newborn animal's bloodstream to protect it from disease and is also a laxative

colt A young male horse four years or under

coltsfoot (bull's foot; coughwort; horsehoof) An herb

columba A light (aerated), breadlike fruitcake

Columbia 1) A medium-wool breed of sheep developed in Wyoming and Idaho by crossing Lincoln rams on Rambouillet ewes; they are white-faced sheep with no horns and their fleece grades approximately $\frac{3}{8}$. 2) A variety of trefoil

See Part 2: Sheep Breeds

Columbia CNA agar *See* Part 2: Microorganism, Media

Columbia river smelt *See* smelt

columbium *See* niobium

column strength The vertical force (in pounds) required to buckle the sidewalls of a can

colwick A creamy, full-fat, soft, cylinder-shaped, unsalted cheese made from cow's milk; consumed fresh

colypeptic (kolypeptic) Describes a slowing of digestion

colytic Inhibitory

colza *See* rapeseed oil

com- A prefix meaning with or together

comatose Describes the state of coma, e.g., induced by stunning

comb honey Honey as it comes from the hive in wooden frames

combinations The number of groupings that can be formed from objects without regard to order; e.g., for

n objects taken r at a time:

$$C_r^n = \frac{n!}{r!(n-r)!}$$

combination of w, x, y, z taken three at a time:

$$C_r^n = \frac{1 \times 2 \times 3 \times 4}{(1 \times 2 \times 3)(1)} = 4$$

$wxy \quad xyz \quad wyz \quad wxz$

sum of all combinations from 1 to n at a time in a group:

$$S_C = 2^n - 1$$

$$= 2^4 - 1 = 15$$

$w \quad x \quad y \quad z$
 $wx \quad wy \quad wz \quad xy \quad xz \quad yz$
 $wxy \quad wxz \quad wyz \quad xyz \quad wxyz$

See also **permutations**

combined residual chlorine The amount of chlorine that is combined with nitrogenous matter

combined residual chlorine
 = (total residual chlorine) - (free residual chlorine)

combing wool Wool that is both long-stapled and strong-fibered

combustion A chemical reaction, usually caused by heat, between oxygen and another substance; oxides result from inorganic combustion (water is the product of combustion of hydrogen). Combustion of organic materials always yields carbon dioxide and water as end products, with evolution of heat. It can be considered the opposite of photosynthesis.

comestible Edible

come-up period The time between the introduction of steam into a retort and when the retort reaches required processing temperature

comfit A candy, sweetmeat, or jam

comfort zone Temperature at which optimum performance can be acquired

comfrey (blackwort; **consolida**; **knitbone**; **nipbone**) An herb whose leaves and roots are used as a pot herb

cominos Spanish for cumin seed See **cumin seed**

Comitrol A meat flaking machine

commercial grade See **technical or commercial**
 See Part 2: Grades, Meat; Meat Grade Stamps

commercial sterility Free of viable microorganisms of public health significance and non-health significance capable of reproducing under normal storage conditions

comminute To reduce to a very small particle size

comminuted cheese See **cold-pack cheese**

commission cheese A skim-milk cheese similar to edam

Committee on Food Protection of the National Academy of Sciences-National Research Coun-

cil (NAS-NRC) An independent body of scientists who advise governmental agencies on matters of national importance and publish a quasiofficial guide for food ingredients (*The Chemical Codex*)

commodities Usually used to refer to widely traded raw materials and agricultural products, such as wheat or corn

Commodities Futures Trading Commission (CFTC) The agency responsible for regulating and overseeing all futures contract markets

commodity code A four-digit code that identifies the product packaged

Commodity Credit Corporation (CCC) A government-owned and -operated corporation that operates price and income support programs and that manages government-owned stocks of agricultural commodities

Commodity Credit Corporation sales price The Commodity Credit Corporation may not sell wheat, corn, sorghum, barley, oats, rye, or cotton at less than 115% or rice at less than 105% of the current national average loan rate of each commodity. If loan repayments are permitted at lower than loan rate levels, the resale price is 115% and 105% of the average loan repayment rates for these crops.

commodity program Price support programs for corn and other feed grains, wheat, cotton, rice, peanuts, tobacco, sugar, and dairy products

Commodity Supplemental Food Program Provides nutritious foods to supplement the diets of low-income pregnant, postpartum, or breast-feeding women, infants, and children under 6 years of age; nutrition education is an essential part of the program.

Common Lespedeza A variety of lespedeza (sericea)

Common Agricultural Policy (CAP) The agricultural policy of the European Economic Community

common bass See **sea bass**

Common Bermuda A variety of Bermuda grass used for lawns

Common Market See **European Economic Community**

common root rot (dryland rot; *Cochliobolus sativus* and *Fusarium* sp.) Crown rot; an early-ripening disease of wheat

communicable Capable of being transmitted from one individual to another

compact bone The outer, hard, brittle, white shell of bones

compaction Tightly packed material in the stomach or intestines, causing digestive disturbances and/or constipation

comparative advantage The situation when a farm or a country produces and sells those goods and services that it can produce at relatively low cost and buys those products and services that others can produce at relatively less cost

comparisons See Part 2: Paired Comparisons

200 compartment can

compartment can A can in which the bottom acts as a closure for the can below

compensatory gain The abnormal gain made after a period in which no gain was made, e.g., the weight gain of a hog on full feed after a period of prolonged starvation

compensatory growth Accelerated growth following a period of limited food intake

compiler A special program that converts English-like computer instructions written in "high-level" language, such as Fortran, Basic, or PL/1 into instructions a computer can read and execute

complete protein A protein that when used alone in the diet is adequate for normal growth

complexus Triangular muscle in the neck area between the *ligamentum nuchae* and the cervical vertebrae

See Part 2: Beef Rib Nomenclature

compliance The conformity of a product to the specification under which it was produced

Compositae A large family of plants including the aster

See Part 2: Vegetables Classification

composite can A can with a fiber body and one or both ends made of metal

composition The substances included in a given mixture, by name and percentage

See Part 2: Composition of Food

compost Treating organic material so that it will decompose and can later be incorporated into the soil or used as mulch; a mixture of soil and partially decomposed plant material; a compost pile should be kept moist and include the following layers:

6–12 in. organic matter or refuse

Light sprinkling of fertilizer (10-10-10) and lime

1–2 in. soil

Repeat these layers and mix frequently.

compote 1) A dessert or appetizer consisting of stewed fruit, sliced and served in natural juice or cooked in syrup. 2) A mixture of dried fruit (usually apricots, peaches, pears, and prunes)

compound 1) A substance, either organic or inorganic, that is composed of two or more elements; compounds are homogeneous and can be separated only by a chemical reaction. See also **mixture**. 2) A water-solvent dispersion of rubber placed in the curl of a can end to provide a hermetic seal (when the can is sealed) by filling voids in the double seam

compressed chlorine gas Liquid chlorine gas under pressure, usually in a portable cylinder

compressed yeast A moist mixture of yeast and cornstarch, usually a $\frac{3}{8}$ -oz cake

Shelf life: refrigerated (31°F), 2 weeks; frozen, 2 months

Activation temperature 105°F

Compudose A growth-promoting implant used on slaughter steers

computer-assisted axial tomography (CAT) An imaging process that can produce a three-dimen-

sional image of the whole subject and is useful in diagnostic work

comrc1 See **commercial**

comté A large (75 kg), French, yellow, wheel-shaped, hard Swiss cheese, made from cow's milk, with small holes and a tan rind

con- A prefix meaning with or together

coñac Brandy distilled from fermented grape juice

concannon A dry, fortified, alcoholic wine

concasser Coarsely chopped

concentrate 1) Remove most of the volatile solvent from the miscellany. 2) A product from which water has been removed and that will be reconstituted prior to use; milk from which two-thirds of the water has been removed

See Part 2: Dairy Terms; Milk, Concentrated Products

3) Feed substances high in energy and low in crude fiber

concentrated A wine with alot of bouquet and aroma

concentrated milk See **plain condensed milk**; **plain condensed skimmed milk**

See Part 2: Concentrated and Dried Milk Products

concentrated skimmed milk See **plain condensed skimmed milk**

concentrated solution A solution containing all of the solute that a solvent will solubilize

concentration The percentage of solute dissolved in a given amount of solvent

conception The point at which the egg becomes fertilized and pregnancy begins

conch (*Strombus*) A saltwater snail used to make chowder; cooked like a scallop

conches A semihard cheese, made from cow's milk with a full, fruity flavor

Concord A variety of grape, dark blue in color

concrete Portland cement (hydraulic cement) containing various percentages of aggregate (gravel, cinders, fly ash, etc.) See also **cement**

See Part 2: Insulation; Insulation, Conductivity Values

condemned Something that has been declared unwholesome, e.g., an animal carcass or parts of carcass that an inspector has found unfit for human consumption

condensed Reduced to denser consistency by removal of moisture

condensed milk Milk preserved by evaporation (approximately 50% of moisture removed) and the addition of sugar (at least 40% by weight); sp. gr. 1.16; not sterile

Composition: milk fat and solids 30%; sugar 42%; water 28%

2.3 lb milk = 1 lb condensed milk (whole)

one 15-oz can

= $1\frac{1}{3}$ cups

= $2\frac{1}{2}$ cups milk + 8 tbsp sugar

$\frac{1}{2}$ cup, sweetened, undiluted = 490 calories

Storage: unopened containers at room temperature, will keep for several months; opened, refrigerate and cover tightly, and use within 1 week.

See also **plain condensed milk; sweetened condensed milk**

See Part 2: Condensed-Milk Dressing; Dairy Terms; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Milk Composition; Milk, Concentrated Products; Vitamin A, Milk and Milk Products

condensed soup Soup that requires the addition of an equal quantity of water or milk prior to consumption

condiment A flavoring agent (seasoning or sauce, spice or herb) having a sharp, spicy taste; an additive used to enhance or add flavor; a seasoning; a seasoner and appetizer added to food; adjunct added to food that supplies little nourishment but is stimulating to taste or secretion; e.g., mustard, pepper, salt, vinegar
See Part 2: Stabilizers, Thickeners

condition 1) The amount of flesh (of meat animals or draft horses) or degree of fatness; fitness to race (of race horses) and general health. 2) Predetermined moisture and/or temperature

conditioner A material that improves the properties of the product to which it is added, e.g., dough becomes less sticky and easier to extend

conditions of purchase The terms or provisions in a purchase order

condol A tropical vegetable
See Part 2: Vegetable Storage

conductance (G) The reciprocal of resistance in an electrolytic solution

$$G = \frac{1}{R}$$

R = resistance in ohms

G = in reciprocal ohms

conductivity The ability of a material to conduct electricity (the opposite of resistivity), heat, or light
See Part 2: Insulation, Conductivity Values

cone wheat *See* **wheat**

confection A cooked mixture of sugar, flavoring, fruits, and the like having a predominantly sweet taste; candy

Aerated or whipped confections—agitation with incorporation of air

Chewy confections

Grained—supersaturated, sugar solutions, such as fudges, cream centers, pulled grained mints, rigid grained marshmallows, and hard and soft panned centers

Nongrained—unsaturated sugar solutions, e.g., marshmallows, taffies, nougats, caramels, jellies, gums, and kisses

Hard candies (high-boiled sweets)—highly saturated, super-cooled sugar solutions

See Part 2: Minerals (Trace), Limits

confectioner's coatings *See* Part 2: Coatings

confectioner's custard *See* **crème patisserie**

confectioner's sugar (icing sugar) 1) A highly refined sugar made into a very fine powder, suited to confectioner's use; $3\frac{1}{2}$ cups = 1 lb; powdered sugar; fine (XXXX). 2) Sugar that is extra-coarse in size (sometimes called manufacturer's sugar)

confirmation An analytical method resulting in a specific identification and/or value that is undisputable and that corroborates an analytical finding previously arrived at by a different analytical procedure

confiture Jam; a sweetmeat of fruit

conformation The shape, form, or relationship of parts; thickness in relation to dimension of skeleton; shape of a carcass that indicates proportion of meat and bone and proportion of desirable cuts

congealing point (c.p.; set) The temperature at which a liquid oil becomes solid; used to follow hydrogenation *See also* **freezing point**

congee A rice beer

congeners Flavorful substances generated with alcohol during fermentation

congenital Present before or at birth

conger eel A seafood animal
North Atlantic (*Conger oceanicus*; *C. conger*)
North Pacific (*Astroconger myriaster*)

congo bean *See* **pigeon pea**

congou Black China tea

conjugation The act of temporarily joining together and exchanging nuclear material

connective tissue A tough, proteinaceous material associated with muscles, collagen, elastin, and reticulin fibers

See Part 2: Connective Tissue, Composition; Connective Tissue Proteins

conservation reserve Highly erodible land that is retired from crop production and planted to grass or trees for a period of years, for which the owner receives an annual payment *See* **highly erodible cropland**

conservation use Land use that protects soil from erosion by planting to grasses or legumes or to small grains that are not allowed to mature

conserve A combination of several fruits, usually including citrus fruits and often raisins and nuts, cooked until thick and clear; a blend of two or more fruits and nutmeats in a thick syrup or jelly ($\frac{1}{2}$ – $\frac{3}{4}$ lb sugar/lb fruit) *See* **jellied products**

considered planted In calculating base acreage, land is considered planted to a program crop if any of the following hold: it was used for conservation acreage under an acreage reduction or set-aside program; the producer was prevented from planting the program crop because of drought, flood, or other natural disaster or other conditions beyond the control of the producer; it is acreage planted to a nonprogram crop but is land that was permitted to be planted to the program crop; it is any acreage on the farm that the secretary of agriculture determines is necessary to be included in establishing a fair and equitable crop acreage base

consistency 1) A measure of firmness, density, or viscosity; a penetrometer is used to measure the consistency of fats; for oils and other thick liquids a viscometer is used. 2) The harmony of parts; uniformity, congruity

consommé A clarified, highly seasoned, thin soup made by simmering meat (usually beef) and vegetables (usually carrots, leeks, onions, parsley, and turnips) and condiments; can be jellied by chilling

consommé madrilène A clear, amber-colored soup made from beef stock and strained tomatoes, served hot or jellied

consommé with gelatin added Available canned (as a condensed soup) or as a dehydrated soup mix

Composition	Condensed		Dehydrated	
	Undiluted	Prepared with water	Dry	Prepared with water
Moisture (%)	92.6	96.2	0.6	95.0
Protein (%)	4.4	2.2	17.2	0.9
Fat (%)	0	0	0.1	0.01
Carbohydrate (%)	1.4	0.7	16.3	0.8
Fiber (%)			0.1	0.01
Ash (%)	1.6	0.8	65.8	3.3

conspere stink bug (*Euschistus conspersus*) A $\frac{1}{2}$ -in.-long, shield-shaped, gray-brown sucking bug covered with white dots

constipation Faulty excretion of or lack of the ability to excrete feces

constitutional formula See **structural formula**

Consultative Group for International Research (CGIAR) A network of public and private institutions that support international agricultural research programs aimed at increasing the quantity and quality of world food production

consumer An individual who obtains and uses a commodity

consumer panel A group of individuals representative of a specific population

consumer's risk The probability of accepting a lot whose percentage of defectives is equal to the rejectable quality limit; the risk of a bad lot of product being accepted by a sampling plan

consumer subsidy equivalents The level of subsidy that would be necessary to compensate consumers for the removal of government programs

consumption The act of consuming or ingesting

consumption unit Requirements of different sex and age groups expressed as a fraction of the adult male requirement

contagious Transmitted by direct or indirect contact or through the air without direct bodily contact

container code A group of five digits that identify the size and style of a container

container-conveyer chain A conveyer that moves cans through a hydrostatic retort

container specification code (six-digit code; spec. code) A six-digit code to identify the plate and inside and outside enamel of a container

contamination Direct or indirect transmission of objectionable matter; containing foreign matter

contango A market situation in which prices are progressively higher in the future delivery months than in the nearest delivery month

contignac See **quince**

continental roast See **French roast**

Continuing Survey of Food Intake by Individuals (CSFII) Continuous data, collected annually, on the dietary status of selected subgroups

continuous phase (external phase) The dispersion medium in a colloidal or other heterogeneous system. For example, air is the continuous phase in a water-in-air suspension (fog, aerosol); water is the continuous phase in a solid-in-liquid suspension (milk). See also **dispersed phase**

continuous thread 1) Continuous spiral (at least one turn) of glass ridge around finish. 2) Metal ridge in a cap to match glass threads

contract An agreement between two or more competent persons to perform or not to perform a specific act or acts; may be verbal or written; a purchase order, when accepted by a vendor, becomes a contract.

contract date The date when a contract is accepted by all parties

contract grade Specific physical standards, established by an exchange, that must be met by each commodity to qualify for delivery against futures contracts traded on the exchange

contraction A reduction in length

contract sanctity The legal doctrine that the terms of a contract are inviolable

contract unit The specific amount of a commodity represented by a futures contract

control In a group or situation for which variation is attributable to chance causes only

control chart A graph, with upper and lower control limits and a mean or aim line, on which values for some measure for a series of samples are plotted

controlled-atmosphere (CA) storage A storage environment in which not only the temperature but the concentration of oxygen, nitrogen, and carbon dioxide are adjusted to an optimum level and maintained constant for a desired period; this practice was adopted in 1940 for fruit and vegetable storage. See also **storage**

controlled process A process in which nearly all of the values fall within the control limits

control limit Limits within which a specific number of defectives must fall if the process is in control; values on control charts that are used as criteria for corrective action See **upper control limit**; **lower control limit**

controlling authority The official authority charged with the control of an operation

convection The exchange or flow of heat

convenience food Preprepared or semiprepared foods that require a minimum of preparation prior to consumption

conventional food Food available in a given area by classical means and not subject to unusual processing

convergence (halo effect) The tendency to rate a sample similarly to a prior sample

converted rice A patented process for transferring some of the B vitamins from the outer layer of the rice grains into the interior before milling

Convolvutaceae The large, morning-glory family of plants

See Part 2: Vegetable Classification

cook 1) To prepare food for consumption, usually by heating. 2) One who cooks

cook before eating Heat to 160°F before serving

cooked 1) (On a meat label: fully cooked; ready-to-eat; ready-to-serve; thoroughly cooked) A meat product that must have a cooked appearance, which usually requires an internal temperature of at least 148°F. See also **smoked meat** 2) Warmed or heated to 140°F. 3) Describes flavor of milk after exposure to heat

cooked dressing See Part 2: Cooked Dressing

cooked meat See Part 2: Meat Storage

cooked meat medium A medium used to grow *Clostridium perfringens*

See Part 2: Microorganism, Media

cooked salad dressing A thickened sauce containing the following:

- Acid (vinegar or acid fruit juice)
- Fat (butter, lard)
- Liquid (water or milk)
- Seasoning (sugar, salt, etc.)
- Thickening agent (flour, starch, or eggs)

cooked salami See **salami cotto**

cooked sausage A sausage made from fresh meat (some cured meat may be used) that is cooked and ready to serve; a sausage made from uncured meat that is ground, seasoned, stuffed into casings, and cooked but not smoked; usually consumed cold, e.g., braunschweiger, liver sausage, and liver cheese

cooked smoked sausage A sausage made from fresh or cured meat that is chopped, seasoned, stuffed into casings, smoked, and cooked; requires only heating before serving, e.g., berliner, bologna, cotta salami, frankfurter, smoke links, and wieners

cooker A retort

Cooke Rose Bengal agar See Part 2: Microorganism, Media

cookie A small, dry, sweet, filled or unfilled, flat cake

Types:

- Cookie bar—baked in a thin sheet and cut
- Butter cake
- Sponge cake
- Dropped—stiff batter
- Icebox cookie—high fat content
- Rolls
- Crisp
- Soft

The English equivalent is a sweet biscuit.

16 sandwich-type, crushed = $\frac{1}{2}$ cup

Storage: Airtight container; wax paper should be put between layers of soft cookies; frozen (0°F) storage 4–6 months

See Part 2: Calories, Daily Recommendations; Grain Products, Composition

cookie, chocolate wafer

1 cup, crushed = 4.2 oz

cookie, cream-filled

1 cup, crushed = 12 cookies

cookie mix 1) A dry, commercially prepared mixture containing most of the cookie ingredients; only liquid items need to be added.

Storage: room temperature, away from the heat of the range or refrigerator unit

2) A moist, refrigerated, commercially prepared mixture containing cookie ingredients; needs to be cooked before serving

cook-in bag There are two types:

1. For roasting meat
2. For boiling vegetables

Do not use plastic bags for cooking unless they were designed for this purpose.

cooking The preparation of food by exposure to heat (baking, frying, roasting, boiling)

See Part 2: Beef, Cooking; Beef, Degrees of Doneness; Braising Meat; Cooking in Liquid, Time; Fruit, Cooking; Frying Time; Lamb Braising; Lamb Broiling; Lamb Roasting; Lamb Simmering; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Cooking, Fruit; pH, Post Mortem; Pork, Cooking; Pork Loin Cooking; Poultry Cooking, Frozen; Variety Meat, Cooking; Variety Meat Preparation; Vegetables, Cooking Frozen; Vitamin Retention, Meat

cooking oil A vegetable oil that has been refined, bleached, and deodorized but not winterized

Storage: short-term, at room temperature; long-term, refrigerate; if it becomes cloudy or solid, this is not harmful and the oil will clear when heated.

cooking temperatures

Meat and cut to be roasted	Weight (lb)	Cooking temperature		Total time (h)	min/lb
		Oven (°F)	Meat (°F)		
Beef					
Standing rib					
Well-done	5–7	325	170	2 $\frac{3}{4}$ –3 $\frac{1}{4}$	27–30
Medium	5–7	325	160	2 $\frac{1}{4}$ –2 $\frac{3}{4}$	22–25
Rare	5–7	325	140	2–2 $\frac{1}{4}$	18–20

Meat and cut to be roasted	Weight (lb)	Cooking temperature		Total time (h)	min/lb
		Oven (°F)	Meat (°F)		
Beef (con't)					
Rolled rib					
Well-done	5-7	325	170	4½-5½	48-52
Medium	5-7	325	160	3½-4	33-38
Rare	5-7	325	140	3-3½	30-32
Chicken	2-3	350	185	1¼-1½	30-40
Lamb					
Shoulder, rolled	4-6	325	175	3-4	40-45
Shoulder	5-7	325	175	3-3½	30-35
Leg	6-7	325	175	3¼-4	30-35
Pork					
Shoulder, rolled	4-5	300-350	170	1¾-3¼	35-40
Shoulder	5-8	300-350	170	2½-4¾	30-35
½ loin	5-7	300-350	170	3-4¾	35-40
½ fresh ham (bone-in)	5-8	300-350	170	3-6	30-35
Pork, cured*					
½ ham*	6-8	325	130	1¼-1¾	14
Ham,* boned		325	130	Varies with size	12-15
Ham,* canned	8-13	325	130	2-2½	10-15
Turkey	6-8	325	185	3½-4	30-35
	8-12	325	185	4-4½	22-30
Veal					
Rump	4	325	175	2¾-3	40
Leg, whole	6-8	325	175	3¼-4	30-35
½ leg	3	325	175	2	40

*"Cook-before-eating" hams and picnics should be cooked to meat temperature of 160°F; this will take approximately one-third more cooking time.

cool tankard A beverage made from wine, water, lemon, sugar, and borage

Cool Whip A commercial whipped topping
1 cup = 2.3 oz

coomys See **koumiss**

coon A tangy, yellow, dry, crumbly, cheddar-type cheese

coon cheese A subdivision of cheddar cheese

cooperative A business owned by the customers

cooperative group A wholesale grocery operation owned by the retailers

Cooperatives des Producteurs et Affineurs de Munsters des Hautes Vosges Indicates that a munster cheese was manufactured at its place of origin

Cooperative State Research Service (CSRS) See **Science and Education Administration**

coorg Mandarin-type citrus orange
See Part 2: Fruit Storage

copaiba A type of balsamic resin from Brazil and Venezuela, used as a flavoring and odorant
See Part 2: Flavoring Agents, Natural

copaiba oil Obtained by steam distillation of the exudate from trees of the genus *Copaifera*; sp. gr. 0.881-0.909; used as a flavoring agent in food
Storage: full, tight, glass container in a cool, dark place

copate Small, thin cakes

Copenhagen salami A dry, uncooked, smoked Australian sausage made from finely chopped, medium-seasoned beef that is fermented and stuffed into artificial casings

coppa A cured pork shoulder similar to Parma ham but higher in fat See **capocollo**

coppa di piacenza A mild, soft, aromatic, cured ham

coppa picante Square-molded, cala butts that have been cured and covered with black pepper

copper (Cu) A metallic element; at. no. 29; at. wt. 63.54; Group IB of the Periodic Table; oxidation states +1, +2; electron configuration 2-8-18-1 orbit K L M N

Body function: necessary for utilization of iron in hemoglobin synthesis

Copper content of food:

High—cereals, fish, liver, meat

Low—milk

Copper is a good heat conductor for cookware and is only slightly soluble in food in the absence of air. It is usually lined with stainless steel, tin, or a nonstick coating to keep it from reacting with food and causing a color change. It is undesirable for use with some foods in the presence of air. Copper-covered outer surfaces of cookware cause no hazard because the copper does not come in contact with the food. If the

copper is on the inside and comes in contact with acidic foods, the resulting copper salts could cause stomach upsets. Deficiency in plants causes leaves to become dark green and twisted and causes the appearance of spots.

See Part 2: Egg Products, Nutritive Value; Grain Analysis; Minerals, Food; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Normal Solutions; Nutrients in Crops; pH and Availability of Plant Nutrients; Water Drinking Standards; Wheat, Minerals

copperas Ferrous sulfate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$)

See Part 2: Fertilizer Materials

copper gluconate



Used as a nutrient or dietary supplement

Storage: well-closed container

copper oxide CuO or Cu_2O

See Part 2: Fertilizer Materials; Normal Solutions

copper (cupric) sulfate (bluestone) (CuSO_4) Used in animal feeds and fertilizers and as an algicide Composition [copper sulfate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$): dry matter 100%; sulfur 12.8%; copper 25.5%] See Part 2: Fertilizer Materials; Normal Solutions

copper sulfate solution Used as a test solution for determining breaks in coating on can parts

copperweed A plant having a toxic principle

See Part 2: Poisonous Plants

copra Dried coconut meat used for food in tropical countries See **palm**

copra meal See **coconut kernels with coats**

coprophagy Ingestion of fecal material

copulation Sexual act in which insemination occurs

coqueret See **gooseberry**

coquille, en Served in a shell

coquille-Saint-Jacques Scallops

coquinas Small clams that are used for broth

coquito (*Jubaea spectabilis*) A palm tree that is used to make cordage (from the fiber), palm honey (from the sap), and sweetmeats (from the seeds) See **palm**

coquito de San Juan See **palm**

coracoid A cartilage or bone extending from the scapula toward the sternum

See Part 2: Bone

coral The ovary, gonads, or eggs of edible crustaceans; the green (turns red on cooking) roe of hen lobster found in the ovaries and used to make lobster sauce

cord A measure of volume of cut wood equivalent to a stack $8 \times 4 \times 4$ ft

1 cord = 128 cubic feet (ft^3)

= 80–90 cubic feet of solid wood

= 8 cord-feet

See also **wood**

cord-foot

1 cord-foot = 16 cubic foot (ft^3)

= $\frac{1}{8}$ cord

cordial [(American term), liqueur (European term)] A general term for liqueur, an alcoholic bev-

erage produced by mixing or redistilling neutral spirits, brandy, gin, or other distilled spirits with or over fruits, flowers, plants, juices, or other natural flavoring materials; min. $2\frac{1}{2}\%$ sugar; less than 10% dry See **gin, sloe**

See Part 2: Minerals (Trace), Limits

cordial glass Will hold 20 g of liqueur

cordial Médoc A sweet, red herb liqueur made with old red wine

cordon The horizontal, perennial part of a vine, which produces the fruiting spurs

core The center portion; the central, seed-bearing portion of certain fruits

See Part 2: Orange Structure

corek A bread ring covered with sesame seed

coriander (Chinese parsley; dhanya; Coriandrum sativum L.) A small plant of the parsley family; the seeds (the dried, whole, mature seed capsules) are used, whole ($\frac{1}{8}$ -in. diam., prominently ridged) or ground, as a condiment, in curries, in confections, in liquor, in baked goods, and for pickling. The color ranges from white to yellowish brown; the aroma is wood-spicy, pleasant, candylake, and tenacious; the lemon-sage flavor is sweet, bitter, herby, and lingering. (Cilantro is the Spanish term for coriander but usually refers to the leaves, which have a similar flavor.)

Sources: Mexico; Morocco; Romania

Thin plants to 8 in. apart in rows 15 in. apart. Fresh young leaves (cilantro) are used as an herb for flavor (sage-lemon) and like parsley in salads and soups; roots are used for a hearty flavor; leaves and seed yield an aromatic oil.

Harvest (seeds): Cut plants; pound and separate with air movement; yield is 75–130 fruits/g (similar in appearance to whole white pepper).

1 part freeze-dried wt. = 10 parts fresh wt.

Composition	Dried (coarse to medium grind)	
	Leaf	Seed
Moisture (%)	7–8	8–9
Protein (%)	21–22	12–13
Fat (%)	4–5	13–22
Volatile oil (%)		0.5
Carbohydrate (%)	52–53	54–55
Fiber (%)	10–11	29–30
Ash (%)	14–15	6–7
Acid-insoluble ash		1–1.5
Foreign organic matter		7 (max.)

Storage: Organoleptic properties deteriorate with storage if exposed to light and air; store in a cool, dark, dry place.

See Part 2: Essential Oils; Flavoring Agents, Natural; Unsaturated Fatty Acids; Vegetable Storage

coriander essential oil (coriander oil) A pale yellow liquid obtained by steam-distilling the dried fruit of coriander; organoleptic properties deteriorate with storage; contains *d*-linalool (25–80%) and monoterpane hydrocarbon (16–30%) See **coriander oil**

coriander oil A colorless, volatile oil obtained by steam distillation of the dried, ripe fruit of *Corian-*

drum sativum and used as a coriander-like flavoring agent in food; refractive index 1.462–1.472 at 20°C; sp. gr. 0.861–0.876 g/ml; optical rotation +8° to +15°

Storage: full, tight container in a cool, dark place

See **coriander essential oil**

coriander oleoresin A dark brown, slightly viscous liquid obtained by steam distillation and/or solvent extraction of the dried fully ripe fruit of corianders; essential oil is often added.

Composition: fatty oil 90%; resin 88% max.; volatile oil 12–13.5%; steam-volatile oil 5%

corium The second layer of skin containing tissue and lying beneath the epidermis.

See Part 2: Hide, Layers; Hides, Salt Absorption

Corium A genus of viruses

cork The bark of an oak tree (*Quercus suber*) native to Spain and cultivated in California; used for insulation, bottle stoppers, life belts, etc.

Size no.	Approx. diam. of large end of cork (mm)	Size no.	Approx. diam. of large end of cork (mm)
000	7	12	28
00	8	13	30
		14	31
0	10		
1	11	15	33
2	12	16	35
		17	36
3	14		
4	15	18	38
5	17	19	39
		20	41
6	19		
7	20	22	44
8	22		
		24	47
9	24		
		26	50
10	25		
11	27		

See Part 2: Insulation; Insulation, Conductivity Values

corkboard An insulating layer or panel made of cork
See Part 2: Insulation

corkiness See **granulation**

corkscrew macaroni Corkscrew-shaped pasta

cork spot A physiological disease of apple and anjou pear fruit that appears as an external, sunken, greenish area under which is a brown, dry, "corky" necrotic area

Control: calcium chloride spray

corky 1) Describes a tough, elastic texture. 2) Describes the unpleasant odor and flavor produced by a defective cork, e.g., wine ruined by an odoriferous cork

corm A short bulblike underground stem where reserve materials are stored; it does not contain an embryo and is not layered like a bulb.

cormandel gooseberry See **bilimbi**

corn (Indian corn; maize; mealies; Zea mays) 1)

A grain crop of Central and South American origin grown in tropical, subtropical, and temperate regions; an annual vegetable whose seed is used as food; seed 8–12 qt/acre; $\frac{1}{4}$ lb/100-ft row. Thin sweet corn 10–24 in. apart in rows 36 in. apart; 1 ear per foot of row, requires 3–5 months to mature; size 1–8 m tall; stalk 1.5–4 cm diam. The characteristic protein of corn is zein. The meaning of the term corn varies depending on country: in England it means wheat, in Scotland oats, and in the United States maize or Indian corn.

Types and characteristics:

Dent—"normal" type; large kernels that shrink on drying, producing the dent at the tip of the seed

Extra sweet—has even higher sugar levels than sweet corn and a prolonged edible state; recessive gene (shrunken 2; sh 2)

Field corn (*Z. mays rugosa*)

Flint—large, smooth kernels; grains are harder and somewhat translucent

Flour—large, smooth kernels; soft grains

Hybrid—higher yield

Pod—each grain is covered with a husk, in addition to the outside covering of the ear

Pop—small, smooth kernels; hard grains that burst on heating

Popcorn—hard starch in kernels

Sweet corn (*Z. mays saccharata*)—wrinkled seed when dried; recessive gene (sugary -1; su 1);

Corn, aerial part	Composition				
	Dry matter (%)	Protein (%)	Fiber (%)	Fat (%)	Ash (%)
Ensiled, 30–50% dry matter	37	3.1	9.5	1.1	2.3
Ensiled, well eared;					
30% min. to 50% max. dry matter	33	2.7	7.9	1.0	1.5
With ears, sun-cured, fodder	82	6.6	18.6	1.9	4.4
Without ears or husk,					
sun-cured (stover, straw)	85	5.6	29.3	1.1	6.1
Without ears or husk,					
silage (stalklage, stover)	31	1.9	9.6	0.7	3.5

large kernels; wrinkled and translucent when dry

Nutrient	Approx. amount used for growth (lb)	
	100 bu grain	3 ton stover
N	90	70
P ₂ O ₅	35	25
K ₂ O	25	95

Color: Controlled by male tassel; white, yellow (contains carotene), red, purple, and black

Uses: Human food; animal feed; silage; meal; flour; hominy; starch; sugar; oil; alcohol

Food value: Good source of starch; protein has lower nutritional value than other grains (lysine is the first limiting amino acid and tryptophan is the second)

Sweet corn varieties:

Bicolor

Butter and Sugar

Sprite

Sugar and Gold

Sweet Sue

Golden

Bravo

Earlibelle

Extra Early Super Sweet

Gold Cup

Golden Queen

Golden Security

Illini Xtra-Sweet

Lachief

Merit

NK 199

Northern Belle

Seneca Beauty

Seneca Chief

Seneca Scout

Spring Gold

Stylpack

Sundance

Tri-Gold

White

Country Gentleman Hybrid

Silver Queen

Silver Sweet

Terms:

Cream—upper portion of kernel is cut, and creamy portion of lower kernel is scraped

Whole grain or whole kernel—kernel is cut deep

Corn on the cob—Golden Bantam variety usually used

Shoe peg—long, slender kernel from shoe peg variety of corn

Tidbit—Golden Bantam kernels cut high

Spanish—tidbits canned with red and green sweet peppers

Dry corn milling products	Wet corn milling products
Coarse meal	Corn gluten feed
Flour	Corn oil
Germ	Cornstarch
Grits	
Hominy feeds	

Grades (shelled corn) and maximum moisture content:

- No. 1, 14%
- No. 2, 15.5%
- No. 3, 17.5%
- No. 4, 20%
- No. 5, 23%

Composition	Dent, yellow (dry)	Sweet (raw)
Moisture (%)	10–14	73–75
Protein (%)	8.9–11	3.1–3.5
Fat (%)	3.7–5	1–1.1
Carbohydrate (%)	64–80	20–22
Fiber (%)	2–3.3	3.8
Ash (%)	1.2–1.6	0.7–1
pH		6.0–6.5

Refuse: 61% (husks and cob)

Components of kernel: germ 12% (contains 80% of the oil and 20% of the protein); endosperm 82%; pericarp (bran coat) 5%; tip cap 1%

15.2 MJ kg⁻¹ edible energy value

1 case (24) no. 2 cans = 0.038 ton, fresh

100 lb, fresh = 26–33 lb dry corn

1 bu, whole ears = 70 lb

1 bu, shelled = 56 lb

1 bu, ground ears = 45 lb

1 bu, fresh, sweet, in husk

= 35 lb

= 3½ ft³

= 14–17 pt, frozen

= 8–12½ qt, canned

1 bu husked ear corn = 2¼–2½ ft³

6–20 (12 avg.) ears, cut = 1 qt, canned

12 med. ears, fresh = 2.5 cups cooked kernels

3–6 lb, fresh, in husk = 1 qt, canned

1 qt, cut from cob = 10 ears

4–4½ lb, fresh, in husk = 1 qt, frozen

8 med. ears, fresh = 16 oz, cut frozen

4 med. ears, fresh = 3 cups, cut

2 cups, canned = 1 lb

1 lb cut corn = 5 servings

9–10 oz frozen whole kernels = 3 servings

1 cup, canned, solids and liquid = 7.4–9 oz

1 cup, canned, drained solids = 6–8.2 oz

1 cup, boiled kernels cut from cob, drained = 5.9–6.6 oz

1 ear, fresh = 0.4–0.5 cups cut kernels

1 ear (5 × 1¾ in.), boiled whole = 4.9 oz

1 ear, frozen = 3.5–4.9 oz

1 serving = 1–2 med. ears

	lb/qt	lb/bu
Corn and cob meal	1.4	45
Cracked	1.6	50
Husked ear	~	70
Meal	1.6	50
Shelled	1.8	56

To cook: Boil or steam on cob 4–6 min; roast on cob 10–20 min; off cob, sauté.

Defect action level (sweet, canned): Two larvae, cast skins, and larvae or cast skin fragments, 3 mm or longer (aggregate length of such larvae, cast skins, and larvae and cast skin fragments exceeding 12 mm) of corn earworm or corn borer in 24 lb (24 No. 303 cans or equivalent)

Type (sweet corn)	Days to maturity	Varieties	Kernels
Black Medium to late (ears 7–8 in.)	85	Black Mexican	8–10 rows
White Early (ears 6–7 in.)	65–73	Burlington County; Growers; Mayflower; Minnesota; Red Cob Cory; White Cob Cory	8 rows
Medium to late (ears 7–10 in.)	75–90	Corsby; Country Gentlemen (or Shoe Peg); Stonewall's Evergreen	12–20 rows Small Long; irregular Big; long ear
Yellow Early (ears 7–10 in.)	60–70	Golden Sunshine; Ioana; Marcross; Spancoss	8–12 rows
Medium to late (ears medium to large)	80–90	Bantam Evergreen; Golden Bantam Golden Colonel; Golden Cross Bantam; Top Cross Bantam; Whippcross; Whipples Yellow	10–20 rows Waxy, highest quality Irregular Broad, deep (long ears)

Storage (sweet corn): unhusked and uncovered (85–90% relative humidity); refrigerate (31–32°F); use within 1–8 days; frozen (0°F) storage life of cut corn, 1 yr; corn on the cob requires longer defrosting and longer blanching time than cut corn; sugar in sweet corn converts to starch after picking, so fresh corn should be cooked as soon as possible after picking; dry corn contains 10–12% moisture.

See corn, sweet

See Part 2: Calories, Daily Recommendations; Canned Spoilage Related to pH; Canned Yield; Cereal Composition; Cereal Nutrient Content; Cereal Enrichment; Cereal Fortification; Cereals, Vitamin and Mineral Content; Corn; Corn, Amino Acids; Corn Herbicide; Corn Kernel; Corn Kernel Composition; Corn Plant Growth; Corn Production Area; Food, Composition; Frozen Food Storage; Fruit and Vegetables, Composition; Frying Time; Glutamate; Glutamate Addition; Grain Analysis; Grain Products, Composition; Iron; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Minerals, Food; Niacin; Niacin, Daily Recommendations; Nicotinic Acid, Food; Nitrate, Vegetables; Nutrients in Crops; Pentosans; Phosphorus; Plant Foods, Composition; Planting Density; Portion Size; Potassium; Protein Factors; Riboflavin; Seed, Chemical Composition; Seed Composition; Seed, Germination; Standards, Processed Fruit and Vegetable Products; Starch, Microappearance; Starch, Modified; Starch; Storage; Sugars and

Syrups, Composition; Sugar, Vegetables; Sweetening Agents; Sweetness of Sweeteners; Thiamin; Tocopherols; Unsaponifiable Matter; Vegetable Boiling; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Cooking Frozen; Vegetables, Panned; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vegetable Yields; Vitamin A; Vitamin A, Food; Vitamin C
2) To cure meat

corn, aerial part *See: corn*

corn and cob meal A mixture of finely ground corn and corn cobs; cob is 20–25% of weight, grain is 75–80% of weight; 70 lb/bu; 1.4 lb/qt
Composition: dry matter 37%; protein 7.8%; fiber 8.2%; fat 3.2%; ash 1.7%

corn belt Midwestern United States, where large quantities of corn are grown

corn bread A baked (30–35 min at 400°F), flat bread (approximately 2 cm thick) made from cornmeal, maize flour, or maize flour and some wheat flour (sometimes omitted), baking powder, sugar, salt, eggs, and milk

$2.5 \times 2.5 \times 1\frac{5}{8}$ in. = 2.9 oz

Composition (enriched, degermed corn meal): moisture 50%; protein 7%; fat 6%; carbohydrate 34%; 58 mg cholesterol/oz

corn-can coating See **zinc oxide can coating**

corn, candy See Part 2: Sugars and Sweets, Composition

corn cereal Refers to several ready-to-eat breakfast foods

1 oz (approx. 1 cup), puffed, presweetened
= 115 calories

1 oz (approximately 1½ cup), shredded
= 110 calories

Flakes = 256 mg Na/oz

corn chip

1 oz/serving

1 cup = 230 calories

corn cob Composition (ground): dry matter 90%; protein 2.8%; fiber 32%; fat 0.7%; ash 1.5%

corn cockle (*Agrostemma githago* L.) An annual weed having a toxic principle

See Part 2: Poisonous Plants

cornerake (landrail; *Crex crex*) A small, edible, migratory bird

corn, dent See **corn, field**

corn dog (korn dog) Batter (65% max.) wrapped around franks (35% min.) on a stick; a frankfurter on a wooden stick, dipped in a mixture of flour, cornmeal, eggs, and seasoning, and deep-fat fried

corn, ear The fruit (seed) unit of the plant *Zea mays*, covered with cellulosic husk lined with silklike fibers

74 lb corn in ear with husk per bushel

70 lb shucked corn per bushel (bushel = cubic feet of volume × 0.4)

1 dozen ears = 2½ cups, cooked

1 cup, cooked = 165 g (5.8 oz)

Composition (silage, with husk): dry matter 44%; protein 3.9%; fiber 5.1%; fat 1.7%; ash 1.2%

corn earworm (bollworm; *Heliothis zea*) An insect; the larva is a 1-in.-long, yellow-headed worm of various colors and striped along its lateral surface that destroys the leaves of young corn plants and feeds in the top of ears of older plants; also eats pods or beans of soybeans, can penetrate the interior of lettuce heads, and damages cotton and peanuts. The moth is ¾ in. long, brown, and has a dark line across its wings.

Control: Plant resistant varieties with tight husk.

corned In reference to meat, salted; from the word "korn," which means grain (grain salt); usually brisket, plate, chuck, or round

corned beef Beef that has been dry- or brine-cured (usually with but sometimes without nitrite) with salt and some of the following: sugar, baking soda, saltpeter, or cream of tartar; a typical corned beef cure is the following (using 1 oz per pound of meat):

8 lb salt

3 lb sugar

3 oz saltpeter (or 4 oz cream of tartar)

4 oz baking soda

Apply one-third of this on each of the 1st, 4th, and 10th days; cure 2-3 weeks; for brine cure, add 4½ gal water. Corned beef is not smoked. See also **dried beef**; max. gain in weight on curing is 10% over fresh

uncured weight; sold cooked (min. internal temperature 145°F) or uncooked;

Cuts usually used:

Brisket

Outside round

Eye

Flat

Plate

Rump

Spices:

Allspice

Bay leaves

Cloves

Garlic

Composition: 280 mg Na/oz (28 g)

See Part 2: Beef Cuts and Uses; Cooking in Liquid, Time; Meat and Meat Products, Composition; Meat Composition; Meat Storage; Portion Size; Sausage, Types; Simmering Meat

corned-beef hash A semisolid food product in the form of a compact mass that is usually a mixture of beef (36%), potatoes (60%), onions (3%), and seasoning (1%); a medium- to coarse-chopped, cooked, unsmoked, American sausage that is canned sterile or shelf-stable

See Part 2: Meat Composition

corned beef, jellied Sausage made from precooked, lean, corned beef that is shredded, combined with gelatin, formed into a loaf or roll, and cooked

corned-beef loaf A jellied loaf made from corned beef

Composition: moisture 67%; protein 23.7%; fat 6.8%; ash 2.8%

cornel (cornelian cherry) A red, olive-shaped, tasteless berry that is pickled like olives and made into jelly

cornelian cherry See **cornel**

corn endosperm A natural additive used to color (red-brown) food and chicken feed

cornet (ice cream cone) Conical pastry that is filled with cream or ice cream

corn-fed Describes cattle that have been fattened on corn

corn, field (dent corn; Indian corn) A type of corn that is high in starch and is used for making corn flour or hominy See **corn**

corn, flaked Crushed whole corn kernels

See Part 2: Food, Composition; Grain Products, Composition

Corn Flakes A ready-to-eat breakfast cereal made from toasted flakes of corn; produced from corn grain (endosperm) by precooking, flaking, and toasting; flavored with barley malt, sugar, and salt

1 cup = 1 oz

1 cup, crushed = 2.5 oz

1 cup, frosted = 1.4 oz

Composition: moisture 4%; protein 7-8%; fat 0.4%; carbohydrate 85-89%; sugar 5.3%; ash 3%; 320 mg Na/oz

1 oz (approximately 1½ cups), plain

= 110 calories

1 oz (approximately ¾ cups), sugar-coated

= 110 calories

See Part 2: Grain Products, Composition

210 corn flour (cornstarch)

corn flour (cornstarch) Finely ground kernels of white, yellow, or blue corn; finely ground (finer grind than cornmeal) starch from maize (corn) meal; used as pancake flour, dusting material, and thickening agent, and also to make bread and to mix with other flours

1 cup, sifted = 3.9 oz

Composition: moisture 12%; protein 8%; fat 3%; carbohydrate 77%; ash 1%

corn gluten A light tan, slightly water-soluble isolate that is 90% protein; it can absorb three times its weight in water and bind one times its weight in fat. It is low in lysine and tryptophan and high in methionine and cysteine.

corn gluten feed Corn gluten with bran
See Part 2: Cereals By-Products

corn gluten meal Composition: dry matter 91%; protein 43%; fiber 4.4%; fat 2.2%; ash 3.1%

corn grits (grits; hominy grits) Ground white or yellow corn from which germ and bran have been removed; coarser ground than corn meal; also called ground hominy; the following are added to form enriched grits:

Iron 13–26 mg/lb

Niacin or niacinamide 16–24 mg/lb

Riboflavin 1.2–1.8 mg/lb

Thiamine 2–3 mg/lb

See Part 2: Grain Products, Composition

corn, ground Comminuted corn whose volume is 25 lb per cubic foot

corn, high-lysine A mutant corn (opaque-2) that contains a floury endosperm and higher levels of lysine and tryptophan, making it much more nutritional than common corn

corn-hog ratio The number of bushels of corn that is equal in value to 100 lb of live hog:

$$\text{corn-hog ratio} = \frac{\text{price per cwt of hogs}}{\text{price per bushel of corn}}$$

Below 11.4 = high corn prices, low hog prices, loss to feeder

11.4 = normal, break-even point

Above 11.4 = low corn prices, high hog prices, profit to feeder

cornhusker A mild, high-moisture, heavy-bodied cheddar-type cheese made from cow's milk, with a soft texture and holes

See Part 2: Cheese, Vitamin Content

cornification Hardening of tissue due to keratin formation See also **keratinization**

corn, Indian See **corn, field**

corning Preserving beef by salting

Cornish A class of English chickens that has a yellow skin, pea comb, and lays a brown egg

Varieties: Dark*; White*; White laced red*; Buff* (where an asterisk indicates that there is also a bantam variety)

1 dressed hen = 1–1.5 lb

See Part 2: Poultry Breeds and Varieties; Poultry Cooking, Frozen

Fru
ance;

Cornish game hen See **rock Cornish game hen**

cornish pastry Half-moon-shaped pies or pastry squares filled with meat, onions, and vegetables and cooked

corn leaf aphid (*Rhopalosiphum maidis*) An insect that attacks sorghum as well as maize

cornmeal A meal made from white or yellow corn; a variety of coarseness of grind is available ("bolted" is a finer grind). The old process (water-ground or stone-ground) used the entire grain, including the germ (which contains the oil). This gives the product a superior flavor and added food value, but it does not keep as well as corn ground by the new process. The new process (degermed) uses corn from which the bran and most of the germ (and consequently oil) have been removed, and thus it keeps better. Cornmeal contains little gluten. It is used for making corn bread, fritters, hotcakes, mush, scrapple, and quick breads. The following are added to make enriched cornmeal:

Iron 13–26 mg/lb

Niacin or niacinamide 16–24 mg/lb

Riboflavin 1.2–1.8 mg/lb

Thiamine 2–3 mg/lb

Equivalents:

100 lb degermed cornmeal = 3.16 bu corn

100 lb nondegermed cornmeal = 2 bu corn

1 bu = 50 lb cornmeal

2–3¼ cups = 1 lb

1 cup, cooked = 8.5 oz

1 cup, dry = 4.3–6 oz

= 5.5 cups, cooked

Defect action level: average 1 whole insect (or equivalent) per 50 g; average 25 insect fragments/25 g; average 1 rodent hair/25 g; average of 1 fragment of rodent excreta per 50 g

Composition (whole grain, unbolted): moisture 12% (max. 15%); protein 9%; fat 3–5% [original corn fat content, (±0.3% is permissible range)]; carbohydrate 74%; crude fiber not less than 1.2% (not more than original corn)

Composition (whole grain, bolted): protein 9%; fat 3%; carbohydrate 75%; ash 1%

Composition (degermed): fat 2.25% max.; ash 1.3%

The chief protein of cornmeal is zein.

Storage (whole grain): tightly covered; refrigerate in dry place (storage life 5 months); freeze for longer storage

See Part 2: Food, Composition; Grain Products, Composition; Minerals, Food; Storage, Dry

cornmeal agar See Part 2: Microorganism, Media

cornmeal, whole-ground A whole-grain product containing the germ and outer layers of the grain, where the minerals and B vitamins are concentrated

corn muffin A coarse-textured, maize-meal muffin; a small cake made of cornmeal, milk, egg, and leavening agent See **muffin**

See Part 2: Grain Products, Composition

corn oil A polyunsaturated, golden yellow oil obtained by extraction of the germ of corn; it contains a slight, very pleasant, corn flavor and odor until refined and then becomes very bland and is used as a salad and cooking oil; free fatty acid content 0.113%;

iodine no. 103-130; melting point -20 to -10°C ; unsaponifiable matter 1-2.2%; refractive index (15.5°C) 1.475-1.477; sp. gr. 0.916-0.927; titer 16-20°C. The oil comprises 5% of whole, moisture-free grain and contains the following fatty acids: myristic $1 \pm 0.9\%$; palmitic $10 \pm 3\%$; stearic $3.5 \pm 1\%$; hexadecenoic $1 \pm 0.8\%$; oleic $34 \pm 15\%$; linoleic $48 \pm 15\%$

1 qt = 4 cups

1 cup = 210 g (7.4 oz)

	Smoke point		Flash point		Fire point	
	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)
Crude	352	178	562	294	655	346
Refined	440	227	618	326	678	359

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Free Fatty Acid, Smoke, Flash, and Fire Points; Iodine and Saponification Values; Oils, Seed and Fruit, Oil, Triglyceride Mole Percent Composition; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Spoilage, Fat in Foods; Titer, Fats and Oils; Tocopherols

corn-on-the-cob The unripe (while seeds are still milky) fresh, sweet fruit stalk of the corn plant; it is cooked (max. 5 minutes if fresh, longer if not fresh) in rapidly boiling water and eaten from the cob; butter and salt are often added for eating.

corn pone Corn bread; small cakes made from cornmeal

Composition (white, whole-ground cornmeal): moisture 52%; protein 4%; fat 5%; carbohydrate 35%

corn, pop (*Zea mays everta*) An annual plant used for food, with small ears and tiny kernels that may be round or pointed; consumed as a whole grain after popping. The harder [more corneous matter (some years are superior to others)] the endosperm, the more violent the popping and the larger and lighter the popped kernel; 13.5% moisture needed for electric popping; 60 lb/bu

Type	Variety	Ear	Kernel
Dwarf Large	Tom Thumb	2 in.	Round and golden
	Fireside		
	Purdue		
	White Pearl	6 in.	Round, smooth, white
	White Rice	8 in.	Long, pointed, white

Defect action level: one rodent pellet in one or more subsamples of ten 225-g subsamples or six 10-oz consumer-sized packages and one rodent hair in other subsamples; two rodent hairs per pound; rodent hairs in 50% of subsamples; 30 gnawed grains/lb and rodent hairs in 50% of subsamples

Storage: should not be stored in a warm place

corn, puffed A breakfast cereal made by heating grain (corn) under pressure and rapidly releasing

pressure, causing the superheated steam and the kernel to expand

Composition: moisture 4%; protein 8%; fat 4%; carbohydrate 80%

See Part 2: Grain Products, Composition

corn relish A condiment made from yellow sweet corn, pimiento, chopped cabbage, vinegar, and spices

corn rootworm An insect that is a corn and peanut pest

corns 1) A British term for grains. 2) An old term for coarse salt

corn salad (*fetticus*; lamb's lettuce; shepherd's purse; *Valerianella locusta olitoria*) A small, hardy, annual, mild salad plant that looks like smooth-leaved spinach and is a substitute for lettuce; can be eaten either raw in salads or cooked like spinach; also called winter salad See field salad

See Part 2: Planting Density; Vegetable Plants

corn, shelled 56 lb/bu; plant 10-15 lb/acre

corn, shredded A breakfast cereal

Composition: moisture 3%; protein 7%; fat 0.5%; carbohydrate 86%

corn silk A sweet-tasting herb sometimes used as tea

cornstalk The stalk remaining after ears are removed

Uses: alcohol; cellulose; forage for animals; feed; mulch (if shredded pieces are 1 in. or less); oil; paper; pasteboard; syrup

cornstarch A starch made from the endosperm of corn and used as a transparent thickening agent in gravies, puddings, etc. and as a filler in baking powders; readily digestible

Types	Process	Use
Flavored	Sugar and flavoring added	Puddings; pie fillings
Instant	Dehydrated gelatinized starch, sugar, and flavoring	Puddings; pie fillings
Waxy	Waxy corn (amylopectin)	Frozen sauces; pie fillings

3 tbsp = 1 oz

3 cups = 1 lb

1 cup, stirred = 130 g

For thickening: 1 tbsp cornstarch = 2 tbsp flour

Composition: moisture 12%; protein 0.3%; carbohydrate 88%; ash 0.1%; pH 4-7

See also corn flour

See Part 2: Cornstarch Pudding Variations

corn stick (chipmunks) Corn bread (made from flour, cornmeal, sugar, eggs, milk, oil, baking powder, and salt) baked in the shape of ears of corn, usually in a cast-iron pan

corn stover Cured, mature cornstalk from which ears have been removed; used as livestock feed

Composition: moisture 40%; protein 3.8%; crude fiber 20%; nitrogen-free extract 31.5%; fat 1.1%; ash 3.4%

corn sugar (dextrose) The glucose obtained by complete hydrolysis of cornstarch; occurs naturally in honey, some fruits, and vegetables

212 corn-sugar vinegar

corn-sugar vinegar Made by alcoholic and subsequent acetous fermentation of glucose or cornstarch sugar or corn syrup derived from corn; it is dextrorotatory.

corn, sweet 85–150 seed/oz; plant 1 lb/400 ft; germination time 7 days; harvest when silk turns dry and brown; maturity may be judged by the juice:

Clear, watery—immature

Milky, thin—ready to harvest

Thick—overmature; less sweet, starchy

Available canned or frozen (mostly yellow or golden varieties but some is white); either may contain peppers or pimientos

Canned styles:

Cream style—large or small pieces of kernel in a

thick, creamy sauce (corn, salt, sugar, water, and sometimes starch)

Shoe peg—whole-grain (small, narrow kernels) white corn

Vacuum-packed whole grain—whole kernels in little or no liquid

Whole-grain style—whole kernels in a relatively clear liquid

Storage: store only if you must—unhusked, wrapped in damp paper towels, and stored in the coldest spot in the refrigerator

See Part 2: Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

corn sweetener A class name for sweeteners derived from corn; includes dextrose (derived from corn), glucose syrup, and high-fructose corn syrup

Color and pollination	Variety	Ear length	Rows of kernels per ear	Plant height	Season	Used
White Hybrid	Country Gentleman		Nonrowing	7 ft	92 days	Frozen; canned
	Evergreen	8 in.	14–18	9 ft	90 days	
	Silver Beauty	8 in.	14–16		84 days	
	Silver Queen	8 in.	14–18		Late, 92 days	
Open-pollinated	Country Gentleman (Shoe Peg)	8 in.	Irregular	7 ft	Midseason, 90 days	Canned; frozen
	Early Evergreen				Early	
	Stowell Evergreen				Late	
Yellow Hybrid	Corneli's Gold Rush	8.5 in.	12–14		Early	
	Early Sunglow	6.5 in.	12	4 ft	Early, 58 days	Garden
	Early Xtra Sweet	9 in.	12–16		Early, 70 days	
		(2-in. diam.)				
	Golden Beauty	7 in.	12–14		Midseason, 64 days	
	Golden Cross Bantam	8 in.	10–14	7 ft	Mid.-late, 85 days	Garden; frozen; canned
	Honeycross	8 in.	16 or more		87 days	
	Illini Xtra Sweet	8 in.	14–18		Late, 85 days	Frozen
	Ioana	8 in.	12–16		Late, 87 days	
	Iochief	9 in.	14–18	6.5 ft	Mid.-late, 87 days	Frozen; canned
	Marcross				Early-mid. 66 days	
	Midget	5 in.				
	Pennfresh Adx					
	Seneca Chief	8.5 in.	12–16		late, 82 days	Fresh
	Silver Queen	8.5 in.	14–16	7-ft stalks	Late, 92 days	
	Span-Cross				Early	
Open-pollinated	Tastyvee	8 in.	12–14		Early-mid., 76 days	High-sugar
	Early Yellow-Dent	9 in.	16		Late	
	Golden Bantam	6 in.	8		80 days	Frozen on cob
	Golden Midget	4 in.	8	2–3 ft	60 days	Frozen
Yellow and White Hybrids	Trucker's Favorite	9 in.		7 ft	85 days	Roasted
	Butter 'N Sugar	8 in.	12–14	6 ft	Early, 70 days	Garden; market
	Pearls 'N Gold	7 in.			Midseason, 80 days	

corn, sweet, process residue (cannery residue)

Composition	Fresh	Silage
Moisture	23	68
Protein	7	2.4
Fat	2	1.6
Fiber	17	11
Ash	2.5	1.6

corn syrup A syrup (containing saccharides), with a dextrose equivalent (DE) of at least 20, made by partial hydrolysis (cooking under pressure or with an enzyme, acid, or enzyme-acid) of cornstarch; contains dextrose, maltose, and dextrins. Light and dark forms are available: the light form has had clarifying and decolorizing treatment; the dark is a mixture of corn syrup and refiner's syrup (pH = 5.0).

1 cup = 328 g (11.6 oz)
= 1 cup sugar + $\frac{1}{4}$ cup liquid

Uses:

Candies

Frosting

Meat curing—total cannot exceed 2% (dry basis) of all ingredients in meat product

Corn syrup solids

Corn syrup

Glucose syrup

Crystal-type (does not crystallize on cooking) is available colorless and white (85% corn syrup, 15% sugar syrup).

Classifications: type I (20–38 DE); type II (38–58 DE); type III (58–73 DE); type IV (73 DE and up)

Higher saccharide content contributes the following to food:

Adds cohesive and adhesive properties

Increases chewiness

Increases water-holding capacity

Corn syrup is a humectant and this capacity increases with dextrose equivalent. **See glucose; humectant**

See Part 2: Sweetening Compounds

corn syrup, dried (glucose syrup, dried) Corn syrup that has been dried to 5% moisture

corn syrup, high-fructose (HFCS) Corn syrup containing dextrose and fructose, obtained by isomerization of glucose to fructose using glucose isomerase; made by hydrolysis of cornstarch with varying quantities of fructose [e.g., syrups with 42, 55, and 90% fructose (with most of the rest being dextrose) are available]

corn vinegar Vinegar made from maize

corn whiskey Whiskey distilled from fermented maize and aged in uncharred barrels

corolla Colored petals of a flower

coronet A horse's leg at the top of the hoof

corporate farm A farm business that is legally incorporated under state law. The stock may be held by a farm family, closely held and not available for public purchase, or listed on a public stock exchange.

corpuscle A cell in a fluid, e.g., red and white blood corpuscles in blood

corpus luteum (yellow body) The tissue on the ovary that produces hormones if pregnancy occurs and otherwise simply degenerates; granulose cells of the graafian follicle following ovulation

corrected wine *See modified wine*

correlation (r) A mathematical value that measures the degree of relationship between two variables:

$$r = \frac{\sum xy}{[(\sum x^2)(\sum y^2)]^{1/2}}$$

$$= \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\left\{ \left[\sum X^2 - \frac{(\sum X)^2}{n} \right] \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right] \right\}^{1/2}}$$

$$= \frac{n \sum XY - \sum X \sum Y}{\left\{ [n \sum X^2 - (\sum X)^2] [n \sum Y^2 - (\sum Y)^2] \right\}^{1/2}}$$

r ranges from -1 to 0 to $+1$

-1 and $+1$ are perfect correlations

0 is no correlation

t test:

$$t = r \left(\frac{n-2}{1-r^2} \right)^{1/2}$$

H_0 : $r = 0$, probability of greater $|r|$ value if r were drawn from a normal population in which $r = 0$

n = no. of X s or Y s

$df = n - 2$

Check levels of significance tables for $df = n - 2$

Confidence limits (CL) can be set only by transformation to a quantity which is distributed normally.

See Part 2: Correlation Significance

Corriedale A medium-wool breed of sheep that originated in New Zealand, primarily from the crossing of Merino ewes with Lincoln rams; has white face with dark nostrils and hooves and has no horns; the wool fleece grade is usually $\frac{3}{8}$.

See Part 2: Sheep Breeds

corrosion Chemical attack by oxygen or acids on metal

corrugated Having alternate ridges and furrows, or a ribbed effect; a sandwich construction of layers of paperboard where a fluted medium is attached to flat sheets

cortex 1) The outer portion or bark of a tree. 2) The protective covering of the cerebrum or of the adrenal glands

corticosterone A hormone obtained from the adrenal cortex

See Part 2: Steroids

cortisol A steroid hormone obtained from the adrenal cortex or made synthetically

See Part 2: Steroids

cortisone A steroid hormone obtained from the adrenal cortex or made synthetically

See Part 2: Steroids

Cortland A variety of apple that is in season from September to December; makes excellent sauce and is a good eating and cooking apple

Corton A strong, full-bodied red wine

Corton-Charlemagne A dry white wine

corvo di salaparuta A Sicilian wine

Types:

Pale white

Red—fine; good aroma

White—full-bodied

Corynebacterium A genus of slightly curved rods, usually aerobic microorganisms, that includes both nonpathogenic and organisms that cause animal or plant diseases, e.g., diphtheria-type organisms

See Part 2: Microorganism, Media

Cos A variety of head lettuce See also lettuce; romaine lettuce

cosecant A trigonometric function

$$\text{cosecant} = \frac{\text{hypotenuse}}{\text{ordinate}}$$

cosine A trigonometric function

$$\text{cosine} = \frac{\text{abscissa}}{\text{hypotenuse}}$$

cosettes Sugar-beet slices

costae Ribs (Latin)

costal Pertaining to the ribs or their cartilage

See Part 2: Bone

costal cartilage Rib cartilage on the lower ends (opposite ends that are attached to backbones) of the ribs

cost and freight (C and F) The seller provides the cargo, pays loading costs, and charts the vessel for a specific destination; the buyer pays for discharge. See **cost, insurance, freight**

Costa Rican hard-bean A hearty, strong coffee from Costa Rica, with a balance between aroma, flavor, and body

Costa Rican semi-hard-bean A rich, light-flavored, smooth coffee

cost, insurance, freight (CIF) The seller provides the cargo, pays loading costs, insures the cargo until it reaches the destination, and charts the vessel for a specific destination; the buyer pays for discharge. See **cost and freight**

costmary A plant that is used for flavoring See **alecost**

cost-of-production The average amount (in dollars per unit) needed to grow or raise a farm product, including all purchased inputs and sometimes including allowances for management and use of land owned by the farm operator; may be expressed in units of bushels, pounds, tons, or acres

cost plus A pricing method where the purchaser agrees to pay an amount determined by the cost incurred by the vendor plus a fixed percentage of that cost for profit

costs per serving See Part 2: Fruit and Vegetables, Cost per Serving

cost sharing A practice where the government shares the cost of certain farm conservation practices with the farm owner or operator

costus root oil A volatile oil obtained by steam distillation or solvent extraction followed by vacuum distillation of the root of *Saussurea lappa*; sp. gr. 0.994–1.040; used as a flavoring agent in food
Storage: full, tight glass container in a cool, dark place

cotangent A trigonometric function

$$\text{cotangent} = \frac{\text{abscissa}}{\text{ordinate}}$$

cotechino zampone A moist or semidry, cooked or uncooked, unsmoked Italian sausage made from medium-chopped pork stuffed into a pork or an artificial casing

Côte de Beaune A region in Burgundy (east-central France) that is famous for its red and white wines

Commune	Vineyard or wine	
	Red	White
Aloxe Corton	Aloxe, Carton	Clos Charlemagne Corton Charlemagne
Beaune	Delicate body	
Chassagne Montrachet		Fine, amber-colored white
Mercrey	Light body	
Meursault		Dry, green-yellow white
Pommard	Firm	
Puligny Montrachet		Fine, amber-colored, white
Santenay	Mellow	
Volnay	Well-balanced	

coteghino A Portuguese fresh sausage made from pork and pork skins

Côte-Rotie A red wine

Côtes de Nuits A region in Burgundy (east-central France) that is famous for its red wine; a red wine

Commune	Vineyard
Chambolle Musigny	Bonnes Mares
Flagey Echezeaux	
Gevrey Chambertin	Clos de Beze, Clos de Lambrays, Le Chambertin Clos de Tart
Morey	Premaux
Nuits St. Georges	La Romanée Conti, La Tache, Malconsorts, Richebourg, Romanée St. Vivant, Clos de Vougeot
Vosne Romanée	
Vougeot	

Côtes du Rhône A robust, full-bodied, dry red, rosé, or white wine from southern France

cotherstone (Yorkshire stilton) A rennet, sharp-flavored, double-cream blue cheese made from cow's milk *See stilton*

cotriade A fish soup

cotroneese (crotonese) A provolone-type cheese made from ewe's or goat's milk

cotswold A gloucester-type double cheddar cheese flavored with onions and chives

Cotswold A long-wool breed of sheep originating in England

See Part 2: Sheep Breeds

cottage cheese (Dutch cheese; pot cheese) 1) A soft, moist, delicate, nonripened, perishable, creamy, and white cheese made from pasteurized skim milk by lactic acid fermentation (*Streptococcus lactis*), scalding (the cheese is not pressed), and adding cream dressing; it is mild and slightly acid. 2) A soft, white, mild, low-fat, high-moisture fresh cheese, with large or small curds, made by acid coagulation of skimmed milk (direct set or curd set with food-grade acid added to develop acidity and to coagulate milk); rennet may or may not be added; curds may (creamed) or may not (uncreamed) contain added cream; curdled and compressed casein; 20% milk solids

Manufacturing steps:

1. Let milk stand until it thickens (often starter culture is added, and sometimes rennet).
2. Gently heat until the whey (clear liquid) rises to the top.
3. Strain.
4. Chop.
5. Add butter, cream, and salt.

Forms:

Cottage cheese—min. 4% milk fat obtained by adding cream

Creamed (both small and large curd)—2–3 oz (4–6 tbsp) cream per pound of curd; increases smoothness and improves flavor and texture; adds calories and lowers protein content

Dry—no cream added (less than 0.5% milk fat); more than 80% moisture

Large curd—low acid content; made with rennet

Partially creamed or low-fat—between 0.5 and 2% milk fat (as labeled)

Small curd—high acid content; made without rennet

USDA grade is "Quality Approved" (good quality and manufactured in a clean plant).

1 gal milk = 8.25 lb milk
= 1 lb cottage cheese
= 1 qt cottage cheese

6.25 lb skim milk = 1 lb cottage cheese

1 lb cottage cheese = 2 cups

1 cup = 240 g (8.3 oz)

1 tsp = $\frac{1}{7}$ oz

1 tbsp = $\frac{1}{2}$ oz

Creamed:

2 tbsp (1 oz) = 30 calories

1 cup, packed = 250 calories

Uncreamed:

2 tbsp (1 oz) = 25 calories

1 cup, packed = 170 calories

24 mg cholesterol/0.5 cup (4% fat); 12 mg cholesterol/0.5 cup (1% fat); 116 mg Ca/0.5 cup (creamed); 90 mg Ca/0.5 cup (dry)

Salt: 1 tsp salt per pound of curd; sodium 0.4% (uncreamed); 115 mg Na/oz (regular); 4 mg Na/oz (unsalted)

Storage: Refrigerate, tightly covered; use within 3–5 days.

See also curd

See Part 2: Calcium, Daily Recommendations; Calories, Daily Recommendations; Cheese Characteristics; Cheese Composition; Cheese, Vitamin Content; Cholesterol Control; Cottage Cheese Shield; Food Composition; Microbiological Standards, Dairy; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Minerals, Food; Riboflavin, Daily Recommendations; Stabilizers, Thickeners; Vitamin A, Milk and Milk Products

cottage cheese grade "USDA Quality Approved" indicates good quality, made under USDA supervision

cottage pie A potato-crust pie with meat filling

cottage roll (cottage butt; smoked pork shoulder roll) A boneless, cylinder-shaped piece of pork cut from the top of the Boston butt; may be fresh, cured, or cured and smoked

cotted fleeces Wool that is tangled and will require special processing; characteristic of certain breeds and of illness in some breeds

cottenham A blue cheese made from cow's milk

cotton (*Gossypium*) An annual plant whose vegetable fiber is composed primarily of cellulose and is used for cloth; seed 30 lb/bu; pH 6–6.5; seed 1–3 bu/acre

Species used:

Upland cotton (*G. hirsutum*)

Composition

	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)	Salt (%)	pH
Cottage cheese								
Creamed	78–90	12.5–14	4–5 (4 min.)	2.7–3		1.4–2	1	
With fruit	72.1	9.9	3.4	13.3	Trace	1.3	1	
Dry curd	79–80	15–17	0.4 (0.5 max.)	1.8–3		0.7–2	1	5.0
Low-fat	82.5 (max.)		0.5–4 (labeled)					
2%	79.3	13.7	1.9 (labeled)	3.6	0	1.4	1	
1%	82.5	12.4	1.0	2.7	0	1.4		

216 cotton (*Gossypium*)

American and Egyptian (*G. barbadense*)
Asiatic (*G. arboreum*; *G. herbaceum*)

Equivalents:

1 net bale = 480 lb
1 gross bale = 500 lb
3.25 lb seed cotton (including trash)
= 1 lb ginned cotton
32 lb cotton seed = 1 bu
1 metric ton seed, with hulls
= 200 kg oil
= 800 kg cake
1 metric ton seed, without hulls
= 330 kg oil
= 670 kg cake

Boll (pod) contains 27–45 seeds; seed cotton is 33% lint.

Seed components: hull 25–30%; kernel 60%; linters 5%; trash 5% (kernel is 32–38% edible oil)

Nutrient	Approx. amount used to produce		
	500 lb lint	1000 lb seed	1500 lb plants
N, lb	1.4	36	38
P ₂ O ₅ , lb	0.5	15	15
K ₂ O, lb	3	15	27

Cottonseed meal	Composition				
	Dry matter (%)	Protein (%)	Fiber (%)	Fat (%)	Ash (%)
Meat, without hulls		43			
Mechanically extracted					
41% protein	93	41	12	4.6	6.1
Whole, pressed seed	93	38	13	5	6.3
Solvent-extracted					
41% protein	91	41	12	1.4	6.5
Without hulls (50% protein)	93	50	8	1.3	6.6
Whole-seed, with hulls		28			

See Part 2: Insulation; Nutrients in Crops; Seed, Chemical Composition; Seed Germination

cotton candy Produced by spinning sugar that has been boiled at a high temperature

cottonseed The seed of the cotton plant; cotton plants yield 170 lb cottonseed per 100 lb fiber; cottonseed yield is 850 lb/acre.

Components: linters 10%; hull 35%; kernel 55%

1 bu = 32 lb

Composition	Kernel	Seed (dry)
Moisture (%)	7	8–10
Protein (%)	30	18–22
Fat (%)	30	16–23
Crude fiber (%)	5	18–23
Nitrogen-free extract (%)	24	24.7–25
Ash (%)	4–5	3.5

See Part 2: Oil, Seed and Fruit; Oils and Fats, Composition; Pentosans; Protein Factors; Refractive In-

dices, Fats and Oils; Seed Composition; Unsaponifiable Matter

cottonseed flour Flour made from ground cottonseed specially processed to minimize the toxic properties of gossypol

Composition: moisture 6%; protein 48–50%; fat 7%; carbohydrate 33%; ash 6%

cottonseed hulls The waste remaining after processing the seed; 0.3 lb/qt

Composition: moisture 91%; protein 3.7%; fat 1.5%; fiber 43%; ash 2.6%

See Part 2: Fertilizer Materials; Insulation

cottonseed meal The product remaining after expression of the oil; contains toxic gossypol, which should be removed during processing; used for both animal feeds (as a protein supplement) and as fertilizer (5.7-2.5-1.5 or 6.6-2.5-1.5); acid in nature and would require 0.1 lb dolomitic limestone to neutralize each pound applied

2.10 lb cottonseed = 1 lb cottonseed meal

1 qt = 1.5 lb

See Part 2: Fertilizer Materials; Oil Meals Composition

cottonseed oil A light yellow, mild, sweet-flavored, semidrying vegetable oil obtained from cottonseed by pressing. After refining it is very bland. This oil contains glycerides of oleic, palmitic, and linoleic acids and is a good source of linoleic acid; used for shortening and margarine and often used as a substitute for olive oil; may be hydrogenated; sardines are often packed in this oil.

5.88 lb cottonseed = 1 lb cottonseed oil

1 qt = 4 cups

1 cup = 210 g (7.4 oz)

Number of carbon atoms:

Saturated

14 (1%)

16 (23%)

18 (2%)

Monounsaturated

18 (24%)

Polyunsaturated

18–2 (50%)

Iodine no. 97–115; sp. gr. 0.9187 (20°/4°C); saponification no. 189–200; unsaponifiable matter 0.5–1.5%; cloud point 40–50°F; melting point – 2 to + 2°C; smoke point 410–430°F; acid number 14.24; titer 31–37°C; refractive index (15.5°C) 1.473–1.476

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Free Fatty Acids, Smoke, Flash, and Fire Points; Iodine and Saponification Values; Oil or Fat, Characteristics; Oil, Triglyceride Mole Percent Composition; Specific Gravities, Fats and Oils; Spoilage, Fat in Foods; Titer, Fats and Oils; Tocopherols

cottonseed stearin A fat obtained from cottonseed; iodine no. 89–103; melting point 26–40°C; saponification no. 194–195; sp. gr. 0.918–0.923

cottonwood A tree that is fair for firewood (16×10^6 Btu/cord, 20% moisture), easy to start, and easy to split and produces medium smoke, good coals, and few sparks

cottony maple scale (*Pulvinaria innumerabilis*) A pest of maple and sometimes pear; produces a cottony egg sac

cottony rot A citrus fruit rot spread by contact and caused by the fungus *Sclerotinia sclerotiorum* (Lib) d By.; the fruit softens slowly but the skin is first leathery and pliable. In dry atmosphere, decayed areas are yellow to greenish brown. In moist atmosphere, the fruit is covered by a cottony white mycelium. Moderate temperature, high humidity, and stagnant air favor growth of the fungus.

cotyledon 1) The rudimentary form of the leaf of seed plants; some types have one (monocots); others have two (dicots).

See Part 2: Wheat Kernel Parts

2) Full, fat flake

couch grass A plant whose rhizome is used as an herb

couhe verac A valençay-type cheese made from goat's milk and covered with tree leaves (plain or chestnut)

coulis (bisque) 1) A thick seafood soup. 2) Thickened, strained juices from meat

coulomb (C) A charge of approximately 6.24×10^{18} electrons passing a point in one second when the current is one ampere; an electrical measurement; x (in amperes) times y (in seconds) equals xy (in coulombs)

$$1 \text{ C} = 2.998 \times 10^9 \text{ statcoulombs} \\ = 1.036 \times 10^{-5} \text{ faraday}$$

coulomb, international

$$1 \text{ international coulomb} \\ = 0.999835 \text{ absolute coulomb}$$

coulomb per square centimeter (C/cm²)

$$1 \text{ C/cm}^2 \\ = 10,000 \text{ coulombs per square meter (C/m}^2\text{)} \\ = 6.454 \text{ coulombs per square inch (C/in.}^2\text{)}$$

coulomb per square inch

$$1 \text{ C/in.}^2 \\ = 1550 \text{ coulombs per square meter (C/m}^2\text{)} \\ = 0.1550 \text{ coulomb per square centimeter (C/cm}^2\text{)}$$

coulomb per square meter (C/m²)

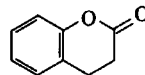
$$1 \text{ C/m}^2 \\ = 6.452 \times 10^{-4} \text{ coulomb per square inch (C/in.}^2\text{)} \\ = 1 \times 10^{-4} \text{ coulomb square centimeter (C/cm}^2\text{)}$$

coulommier A round, flat, light-colored French cheese, with a flowery rind and creamy interior, made from pasteurized, inoculated cow's milk, with rennet added; it is not scalded, not pressed, not mold-ripened, weighs about 1 lb, and is packed in a wood chip box; it is larger than a camembert and smaller than a brie. Storage: dries out quickly if not protected

See **brie de Coulommiers**

coumara nut See **bean, tonka**

coumarin



A chemical with an odor similar to the vanilla bean; no longer approved by the FDA for use as a flavoring

See **bean, tonka**

counterfeit Poorly bred cattle that give an impression of good breeding

country cure See **dry cure**

countersink depth The distance from the top edge of the double seam to the end panel adjacent to the chuck wall

country ham A dry-cured ham prepared in the country; dried, salt-cured pork, usually uncooked, often smoked and matured several months

country hides Hides removed by an unconventional pattern, containing cuts, and handled under various storage conditions

country-style pork sausage A sausage, made from coarsely ground pork, that contains 10–20% beef See also **pork sausage**

country-style spareribs A blade or rib end of a pork loin split lengthwise

coupe An ice-cream-based frozen dessert

coupling The area on the back of a quadruped between the dorsal vertebrae and the pelvis

courant A dry, uncooked, smoked Belgian sausage made from medium-chopped, medium-seasoned beef and pork fermented and stuffed into artificial casings

courgette A tender, baby marrow See **marrow**

court bouillon A fish- and vegetable-based broth, containing spices, vinegar, salt, and sometimes wine, that is used for poaching fish or cooking seafood

couve tronchuda (braganze cabbage; Portugal cabbage) A cabbage; the thick, white, tender midrib, of the larger leaves is cooked and eaten

covalence The type of valence that combines nonpolar compounds

cover 1) The end applied to a can by the packer after filling (also called canner's end, lid, packer's end, top) See **closure**. 2) Linen, silver, glassware, and china for one person; a 20- to 24-in. space is needed (15 in. deep).

cover crop A grass or legume that is grown to protect and improve soil between periods of regular crops (also used in orchards and vineyards)

covered kernel smut See Part 2: Sorghum Diseases

cover hook The portion of the double seam resulting from the curl of the can lid; the portion of the edge of

218 cover hook

the end that is turned back between the body hook in the formation of the end seam of a can

cover pickle (cover brine) The pickle in which meat is placed to cure; usually contains the same level of ingredients as the pumping pickle except that no phosphates are included

cover skirt The flange on a slip cover; the side of a can below the double seam that remains with the top after opening a can with a key

cow A female of a bovine species (e.g., cattle) after she has dropped her first calf; gestation period 283 days (range 240–311); duration of heat period 12–24 h; normal recurrence of heat 18–24 days

See Part 2: Milk, Mammals, Composition; Milk, Species; Muscle and Body Weight

cow beef A female bovine having eight permanent incisors

cowberry (mountain cranberry) An evergreen shrub with fruit similar to the cranberry See **cranberry**

cowfish A saltwater food fish, with an exoskeleton (shell) belonging to the skate family

cow-hocked Hocks closer together than ankles and rear toes pointed out; hocks bent in on rear view

cow parsnip A plant whose leaves are cooked like spinach

cowpea (black-eyed cowpea; black-eyed pea; China bean; China pea; Chinese pea; pea bean; protopea; southern pea; white-eyed pea; *Vigna sinensis*; *V. unguiculata*) Usually a whitish bean (more of a bean than a pea) with a black spot at the eye, the seed of an annual leguminous plant that is used for hay and human food (leaves used as spinach); 10–15 seed/pod; 3500–9500 seed/kg; pod (15–25 cm) is cylindrical and curved; seeds are bean-shaped but short (6 × 4 mm) and vary in size and color; plant is harvested by cutting when first pods have matured; seed 2–5 peck/acre; plant 5 in. apart in rows 30 in. apart

Types (black and white):

Blackeye

Cream

Crowder

Pole type (asparagus bean, yard-long bean)

Purple hulls

Seed color [often darker around the hilum (seed attachment, or eye)]: black; buff; clay; marbled; maroon; purple; speckled; spotted; white

Country and use:

China—young, tender pods eaten

Sudan—starchy root used for food

United States—mature seeds dried and eaten; green manure and forage

Varieties and characteristics:

Big Boy—used for canning and freezing

Black

Black-Eyed—cream-colored seed, with dark eye

Brabham

Brown Crowder

California Blackeye

Clay

Couch

Dixille—pod matures late

Extra Early Blackeye

Iron

Kunkle Purple Hull

Lady

Louisiana Purchase

Magnolia Black Eye—used for canning and freezing

Mekan

Mississippi Purple—pod is green when young, purple when mature

Mississippi Silver—pod is long, round, and medium green; used young and dried; turns brown when cooked

Monarch Blackeye—pod is heat-resistant

Pink Eye Purple Hull

Princess Anne

Purple Hull—white seed

Texas Purple Hull 49

Whipporwill

White Acre

Consumed as dried peas or fresh, as shelled peas or shelled peas mixed with immature pods; canned when mature and dry (has more starch and different flavor) or when immature; frozen when immature

1 bu = 60 lb, dried

1 qt = 1.9 lb, dried

1 cup, raw, shelled = 5 oz

1 cup, boiled and drained = 5.8 oz

1 cup, raw, dry, seed = 6 oz

1 cup, boiled, drained, dry seed = 8.8 oz

Composition	Seed		
	Dry, mature	Immature, raw	With young pod, raw
Moisture (%)	10	67	86
Protein (%)	23	9	3
Fat (%)	1.5	0.8	0.3
Carbohydrate (%)	57–62	22	9
Ash (%)	3.5	2	1

See **pea, black-eyed**

See Part 2: Minerals, Food; Nutrients in Crops; Seed, Chemical Composition; Seed, Germination; Sugar, Legumes; Vegetable Composition; Vegetable Plants; Vegetables, Classification

cowpea hay Composition (dry): moisture 11%; protein 16.5%; crude fiber 20%; nitrogen-free extract 42%; fat 2.2%; ash 7.5%

Cowpei A breed of fat-tailed, white-fleeced (carpet grade) sheep used for wool and mutton and found in Hupeh (Hubei, central China) Province

cowpox A contagious cattle disease in which the udder and teats redden and eruption appears; this area is surrounded by purplish skin; when given to humans, it protects against smallpox

cowslip An herb used in wine making and to flavor vinegar

coyolito A munster-type cheese made from cow's milk and matured for 3 weeks

cozymase See **diphosphopyridine nucleotide**

CP See **chemically pure**

CPF See Part 2: Swine Breeds

CPI 1) Consumer Price Index. 2) Center for Industrial Protein Development

cpm Cans per minute

CP/M A general-purpose operating system developed by Digital Research Corporation that has become the standard of the microcomputer industry

cps Cycles per second

CPU (central processing unit) The portion of a computer that controls the interpretation and execution of the program instructions

Cr Symbol for the element chromium

crab A lean crustacean with five pairs of legs; a shellfish; 50% edible (average 20% protein)

Atlantic crabs:

Blue (hard and soft)

Jonah

Red

Stone

Pacific crabs:

Alaskan king crab

Dungeness

Morro (common and large)

Rock

Snow, tanner, or queen

Market forms:

Brown meat—liver and gonads

Canned

Cooked legs, claws, and body meat

Frozen, cooked

Live

Pea (oyster)—a small crab

Soft-shell

Blue

Shedder—a hard-shelled crab that has just shed its shell during molting season (April–Oct.)

White meat—muscle

Whole, cooked

Freshness: main joints should be stiff when bent; claw meat more tender than body meat

Crab types	Species	Location caught	Weight
Black		West Indies	
Blue (common)	<i>Callinectes sapidus</i> <i>Neptunus</i> spp. <i>Charybdis</i> spp.	Atlantic (U.S.) Pacific (Japan) Gulf of Mexico (U.S.)	0.5–2 lb
Common shore (green shore)	<i>Carcinus maenas</i>	Atlantic, Mediterranean	
Dungeness (market)	<i>Cancer magister</i>	N. Pacific	1.2–2.5 lb
Edible	<i>Cancer pagurus</i>	Europe	
Europe	<i>Cancer pagurus</i>		
European spider, long-legged thornback			
Hanasaki	<i>Paralithodes brevipes</i>		
Hermit (lives in abandoned shells)			
Horseshoe (king)	<i>Limulus</i> spp.	N. America	
Jonah	<i>Cancer borealis</i>	N. America	
Kegani	<i>Erimacrus isenbeckii</i>	Japan	
King (horseshoe, casserole, giant)	<i>Paralithodes</i> <i>camtschaticus</i> ; <i>P. platypus</i> <i>Erimacrus isenbeckii</i>	N. Pacific, Atlantic (U.S.)	6–20 lb
Korean	<i>Scylla serrata</i>	Australia	
Mud			
Mussel			1 inch
Red	<i>Geryon quinquedens</i>		
Rock	<i>Cancer irroratus</i>	Atlantic, N. America	
Sand	<i>Portunus pelagicus</i>	Australia	
Snow (tanner, queen)	<i>Chionoecetes opilio</i> ; <i>C. bairdii</i> ; <i>C. tanneri</i> ; <i>C. angulatus</i>	N. Pacific	
Soft-shell (must be obtained alive)		Mediterranean	
Spinous spider	<i>Maia squinado</i>	Europe	
Stone	<i>Menippi mercenaria</i>	Atlantic, N. America	
Swimming	<i>Portunus puber</i>	Europe	

220 crab

Crabmeat resembles lobster in flavor and texture and is often substituted for it.

To cook: boil in salt water for 20–25 min

Amount for one serving:

Crabmeat 4 oz

Whole blue crab 2–4 oz

Whole dungeness crab $\frac{1}{2}$ –1 oz

Equivalents:

8–10 oz King crab leg in shell

= 6 oz frozen crabmeat

= $7\frac{1}{2}$ oz canned crabmeat

= 1 cup, cooked and flaked

1 cup crabmeat = 165 g (5.7 oz)

1 packed cup, canned, drained solids = 5.6 oz

1 cup, steamed, meat only = 4.4 oz

As purchased in shell	Amount to purchase per serving (oz)	Yield (%)
Blue Dungeness (meat is $\frac{1}{2}$ body meat, $\frac{1}{2}$ leg meat)	22	12–16
King	12	25
King crab legs	6	20–26
Soft shell	4.5	52
		65

Blue crab grade	Name	From	% of meat
Premium	Lump	Large muscle controlling swimming legs	25
Second	Regular or flake	Remainder of body muscle	50
Lowest	Claw meat	Claw	25

King crab: leg meat 70%; shoulder meat 15%; body meat 15%

Fat 2.7%; 85 mg cholesterol per 3 oz canned crab See also **crabmeat**

See Part 2: Cholesterol Control; Fish and Shellfish Composition; Frozen Food Storage; Minerals, Food

crab apple (*Malus pumila*) The parent species for most cultivated apples; many varieties (sizes 1 in. and larger); planted for decorative value and used to make excellent jams and jellies, and often pickled; has a harsh, acid taste

Popular hybrids:

Pyrus malus (apple) \times *P. baccata*

P. baccata—Siberian crab apple

Variety	Flowers	Apples	Use
Callaway (tree 15–20 ft)	Single, pinkish fading to white	Red, persistent	
Cardinal	Pink	Red, large (2 in.)	Jellies, jams, preserves
Dolgo (tree 30–40 ft)	Single white	Red	
Hopa	Pink	Red	Jellies, jams
Hyslop	White	Red, deep red bluish	Fresh, jellies, pickled
Katherine (tree 15–20 ft)	Double pink	Yellow, red	Jelly
Royalty	Crimson	Red-purple	
Vanguard	Pink	Red, $\frac{1}{2}$ in.	

Canned styles: whole; stem on; in heavy syrup; sweet pickled; spiced

Number per can: 12 in No. $2\frac{1}{2}$; 48 in No. 10

12 large crab apples = 1 lb

1 lb, fresh = 1 qt, canned

Composition (raw): moisture 81%; protein 0.4%; fat 0.3%; carbohydrate 18%; ash 0.4%

crab, ghost (sand crab) A small (up to 2 in.), pale white and almost square-shaped crab with four pairs of legs

crab, hermit (family Paguridae) A crustacean with no shell; can be cooked like shrimp

crabmeat The edible meat obtained from various crabs:

King crab (*Paralithodes camtschatica*, *P. platypus*)

King crab or hanasaki crab (*P. brevipes*)

Korean variety crab or kegani crab (*Erimacrus isenbeckii*)

Snow crab (*Chionoecetes opilio*, *C. tanneri*, *C. bairdii*, *C. angulatus*)

Canned white meat is often canned in brine; cooking oil temperature 177–190°C (350–375°F)

1 serving = 4–6 oz

Composition: 425 mg Na/3 oz (85 g, canned and drained); 314 mg Na/3 oz (85 g, steamed); pH 6.8–7.0

See also **crab**

crab, mole (sand bug; sand flea) An egg-shaped crustacean, $\frac{1}{2}$ –1 in. long, used for fish bait

crab soup Available as a ready-to-eat canned soup
Composition (ready-to-serve): moisture 91.5%; protein 2.2%; fat 0.6%; carbohydrate 4.2%; fiber 0.2%; ash 1.4%

cracked Particle size reduced by breaking, crushing, or grinding

cracked wheat Used in breads and quick breads and combined with flour; usually soaked in 2 volumes of water for 24 h prior to use

cracker A crisp, flaky, usually thin, nonsweet biscuit (yeast and chemical aeration) made from refined wheat flour (using a drying process)

Ship cracker (hard tack, pilot biscuit)—hard, unleavened type:

Ingredients (relative proportions based on flour as 100):

Emulsifer 0.1–0.3

Flour 100

Salt 1.75

Shortening 5

Sugar 1

Water 56

Yeast 1.5

Saltines (British equivalent is a dry biscuit):

1 lb = 130–160 crackers (2-in. square)

1 cup, finely crushed = 23–28 crackers

= 22 wafers

1 cup, coarsely crushed = 20–21 crackers

Soda:

1 lb = 82 crackers

= 7 cups crumbs

= 6.8 cups fine crumbs

1 cup fine crumbs = 70 g (2.5 oz)
 Rich round:
 1 cup, finely crushed = 24–27 crackers
 Graham:
 1 lb = 66 crackers
 = 4.3 cups crumbs
 1 cup crumbs = 85 g (3 oz)
 = 12–14 crackers

Composition	Graham	Sandwich type
Moisture (%)	6	3
Protein (%)	8	15
Fat (%)	9	24
Carbohydrate (%)	73	56
Ash (%)	3	3
pH		7–8.5

Cracker types and calorie content:
 Butter (one, 2-in. diam.)—15 calories
 Cheese (one, 2-in. diam.)—15 calories
 Graham (two 2½-in. squares)—55 calories
 Matzo (one 6-in. diam. piece)—80 calories
 Oyster (10)—35 calories
 Pilot (one)—75 calories
 Rye (two, 1⅔ × 3½ in.)—45 calories
 Saltines (four 1⅔-in. squares)—50 calories
 Storage: in metal container at temperature below 70°F;
 will keep for 6 months
 See Part 2: Calories, Daily Recommendations; Fer-
 mented Ingredients; Grain Products, Composition

cracker crumbs

1 cup saltine cracker crumbs = 20 crackers

cracker meal Crushed, sifted crackers used for coat-
 ing food, as a topping, and as a thickener

cracker, round buttery

1 cup, crushed = 26 crackers

crackling 1) Pétillant (slightly effervescent). 2) The
 residue left from rendered pork fat that has had the
 lard extracted. 3) Crisp, baked or roasted skin on a
 piece of pork

crackling wine A general term for carbonated
 grape-juice wine

cracknel A biscuit that is boiled and then baked

cradle roast See Part 2: Pork Loin Cooking

crakeberry See **crowberry**

cramique A tea bread that may or may not contain
 raisins

cramp bone See **patella**

crampy Raising rear foot with a jerk

**cranberry (bog strawberry; cowberry; crane-
 berry; foxberry; mossberry; partridgeberry)**
 An evergreen with wiry stems that produces a bright
 red, round fruit; these tart, acid fruits are used for
 making cranberry sauce and cranberry juice.

Types:

American (*Vaccinium macrocarpon*)—larger than
 European
 European (*V. oxycoccos*)

Name	Shape	Varieties
Cherry	Spherical	Centennial; Early Black; Early Red; McFarlin
Bell	Pear-shaped	
Bugle	Elongated, with bugle	
Olive	Oblong	Champion; Late Howe; Searl's Jumbo

Canned styles (40% sugar):

Sauce, strained—comes out of can in one piece
 Sauce, unstrained—not as firm; contains skin and
 seed
 Whole-berry sauce
 Chopped-berry sauce

Equivalents:

1 barrel = 100 lb
 1 bu = 55 lb
 1 box, fresh = 25 lb
 = 50 pt, frozen
 1 peck, fresh = 8 lb
 = 16 pt, frozen
 = 12 pt, canned
 1 lb, fresh = 1 qt
 = 4–5 cups, fresh
 = 16 one eight-cup servings
 = 3.5 cups sauce
 1½ qt, fresh = 1½ qt, canned
 1 qt juice = 4 cups
 1 pt, frozen = ½ lb, fresh
 1 cup, whole, fresh, stems removed = 4 oz
 1 cup cranberry sauce, canned = 9.6 oz
 1 serving = ½ cup sauce

Cranberry variety	Berry			Season	Keeping ability
	Shape	Color	Size		
Bennett	Oval	Light red	Large	Late	Good
Centennial	Globose	Light red	Very large	Medium	Poor
Early Black	Pear to oval	Dark	Medium	Early	Fair
(also called Late Red)					
Howes	Oval	Medium	Medium	Medium	Good to fair
(also called Late Howe)					
Searl	Oval	Dark	Large	Medium	Fair
(also called Searl's Jumbo)					

Cranberry product	Composition					pH
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)	
Dried	5	2.8	6.6	84		
Juice (33% juice)	83	0.1	0.1	16	0.1	2.3-2.7
Raw	84-88	0.4-1.2	0.7-0.8	11-13	0.2	
Sauce						
Sweetened, strained	62	0.1	0.2	37	0.1	2.3-2.4

Vitamin A 40 IU/100 g; ascorbic acid 12 mg/100 g
Storage: 36-40°F; 85-90% relative humidity; storage life 1-3 months; freezing point 27°F

See Part 2: Fruit, Availability; Fruit, Canning Dates; Fruit Classification; Fruit Composition; Fruit Cooking; Fruit, Frozen Yield; Fruit Sauces; Microwave Cooking; Fruit; Minerals, Food; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Salad Dressing and Mayonnaise Variations; Standards, Processed Fruit and Vegetable Products; Storage; Transit Temperature

cranberry juice cocktail A beverage made by straining cranberries cooked in water and sweetening with sugar

cranberry sauce A fruit sauce made from cooked (until berries pop) cranberries and sugar; grated lemon rind sometimes added

Types:

Strained, jellied

Whole—made with whole berry and parts of berries; jellied

1 tbsp, canned = 25 calories

cranial Of or pertaining to the head or brain

crape fish Salted and pressed cod fish

crappie (*Pomoxis* spp.) A freshwater food fish and the name used for sunfish

Black (*P. nigromaculatus*)

White (*P. annularis*)

1 crappie, pan-dressed = $\frac{1}{2}$ lb

craquelin A tea bread, split on one side, that may or may not contain raisins

crawfish (rock lobster; spiny lobster; *Palinurus vulgaris*) 1) The sea crawfish is a large (smaller than lobster), saltwater crustacean; a saltwater lobster that is sometimes referred to as crayfish (although the term crayfish should be reserved for freshwater species) from the following locations:

Rock:

Australia

 Eastern rock (*Jasus verreauxi*)

 Southern rock (*J. novaeollandiae*)

New Zealand

 Packhorse rock (*J. verreauxi*)

 Spiny rock (*J. edwardii*)

South Africa (*J. lalandii*)

Spiny:

Africa (*P. mauretanicus*)

Australia

 Painted crayfish (*P. oinatus*)

 Western crayfish (*P. longipes cygnus*; *P. versicolor*)

Spiny (continued)

Europe (*P. vulgaris*)

Japan (*P. regius*; *P. japonicus*)

North America

 Atlantic, north and south (*Panulirus argus*)

 Pacific (*Palinurus interruptus*)

2) A small, freshwater crustacean (properly called a crayfish)

Types:

 Freshwater crayfish

 Western crayfish

Available forms: canned; fresh; frozen; potted

See **crayfish**; **lobster**

crawfish butter Cooked crawfish or crawfish meat mixed with butterfat

crawfish flour A powder made from finely ground crawfish

crawfish meal Crawfish shells, claws, and meat that have been dried and ground

crawfish powder Made from dehydrated crawfish meat or ground claws

crawfish soup Prepared from crawfish meat or ground claws

crayfish Small, freshwater ("crawfish" refers to saltwater species), lobsterlike crustaceans (*Cambarus* spp. and *Astacus* spp.) found in the following locations:

Australia

 Marrow (*Cherax tenuimanus*)

 Murray (*Euastacus armatus*)

 Yabbie (*Cherax destructor*)

Eastern North America (*Cambarus* spp.)

England (*A. pallipes*)

Europe (*A. astacus*; *A. fluviatilis*)

New Zealand (*Paranephrops*)

United States (*Cambarus affinis*)

Western North America (*Astacus* spp.)

Sometimes sold under the following names: frozen lobster tails; langostia; rock lobster; South African lobster tails; spiny lobster

1 serving = 2-3 crayfish

See **lobster**

crayfish bisque A soup prepared from crayfish meat, butter, flour, and seasoning

crazy top See Part 2: Sorghum Diseases

cream 1) The class name for fluid creams, dried creams, plastic creams; the fat of milk (butterfat)

obtained by gravity separation on long standing or by a separator

	Milk fat	
	%	Range (%)
Half-and-half ($\frac{1}{2}$ milk, $\frac{1}{2}$ light cream)		10-12
Half-and-half sour cream		10-12
Heavy cream		36-40
Light cream (coffee, table)	20	18-30
Light whipping cream (will whip but not freeze)		30-36
Plastic cream	80	
Sour cream, salad cream, cream dressing		18-20

Whipped cream (in aerosol can)—light cream, light whipping cream, or heavy whipping cream with added sugar, stabilizer, and emulsifier packaged in an aerosol can

Imitation cream (coffee whitener)—a liquid or dry product used as a substitute for cream; may be made from (but not limited to) products derived from milk

Whipping cream—increases in volume by a factor of 2

Equivalents:

- 1 qt (light cream) = 50 servings for coffee
- 1 qt light whipping cream
= 4 cups
= 8 cups, whipped
- 1 pt cream = 2 cups
= 4 cups, whipped
- 1 cup coffee cream (20%)
= 3 tbsp butter + $\frac{7}{8}$ cup milk
- 1 cup heavy cream (40%)
= $\frac{3}{4}$ cup butter + $\frac{3}{4}$ cup milk

	Specific gravity	Weight per cup
20% cream		240 g (8.5 oz)
40% cream	0.99	236 g (8.3 oz)
100% cream	0.54	
Half-and-half		242 g (8.5 oz)
Sour cream		240 g (8.5 oz)

1 lb dry cream = 19 lb milk

1 tbsp light (coffee or table) cream = 30 calories

One tablespoon of heavy cream contains 21 mg cholesterol.

Storage: Temperature 40°F; keep out of direct sunlight and keep tightly closed; use within 3-5 days unless ultrapasteurized, in which case it will keep longer.

2) To beat, blend, stir shortening or butter (with or without sugar) until fluffy; the fluffiness is caused by incorporation of air. 3) To soften with a spoon or beater; to work food until smooth. 4) Heating cooked vegetables with white sauce. 5) A rich filling for pastries. 6) A syrupy liqueur *See also cordial*

See sour cream; sour cream, acidified; sour half-and-half; sour half-and-half, acidified

See Part 2: Animal Foods, Composition; Calories, Daily Recommendations; Cholesterol Control; Creams, Butter, and Frozen Desserts; Dairy Products, Composition; Dairy Terms; Fluid and Fermented Milks, Composition; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Milk, Dry Products; Minerals, Food; Sour Cream Dressing; Spoilage, Fat in Foods; Stabilizers, Thickeners; Vitamin A, Milk and Milk Products

cream (liquor) A full-bodied, sweet, alcoholic beverage or cordial, e.g., cream sherry, crème de menthe, etc. *See cream liqueur*

cream, acidified Light cream to which food-grade acids have been added; (milk fat 18-30%)

cream, acidified sour Cream to which food-grade acids have been added to produce an acid flavor and semiliquid to semisolid body

cream candy *See candy*

cream cheese A soft to semisoft, white, mild, perishable, high-fat (added cream), fresh cheese (non-ripened or short maturation) made from cow's cream and whole milk; often whipped or combined with fruit, herbs, or other flavoring (e.g., chocolate, peach, or orange); the milk and cream are pasteurized and coagulated by a lactic acid starter or lemon; it is foil-wrapped in rectangular portions; its flavor is mild and slightly acid; texture is buttery.

3-oz package ($2\frac{7}{8} \times \frac{7}{8}$ in.) = $6\frac{2}{3}$ tbsp

1 cup = 230 g (8.1 oz)

1 in. cube = 0.6 oz

1 tbsp = $\frac{1}{2}$ oz

1 tsp = $\frac{1}{6}$ oz

Cream type	Composition						pH	Minimum milk fat (%)
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)		
Half-and-half	80	3	12	5		0.6		10.5 (18 max.)
Half-and-half sour cream								10.5 (18 max.)
Light (coffee, table)	71-74	2.7-3.0	19-21	3.6-4.0	0	0.5-0.6		18
Medium	68-69	2-3	25	3-4	0	0.55		
Sour								18 (30 max.)
Whipping								
Heavy	57	2	38	3		0.4		36
Light	62-63.5	2.2-2.5	30.5-31	3-4	0	0.4-0.5	6.5	30

224 cream cheese

Composition: moisture 51–54%; fat 35% [33% min. (38% avg), 20% min. for neufchâtel]; protein 8–9%; carbohydrate 2%; ash 1–2%; salt 1%; pH 4.9; 31 mg cholesterol/oz; 84 mg Na/oz

1 oz = 100 calories

1-in. cube = 55 calories

Storage: Refrigerate, tightly covered; use within 2 weeks.

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Salad Dressing and Mayonnaise Variations; Stabilizers, Thickeners; Vitamin A, Milk and Milk Products

cream cracker A crisp, flaky (yeast and chemical aeration), nonsweet biscuit made from wheat flour

cream, cultured A fermented cream made by the following process:

1. Cream (12–30% fat) is heated at 82°C for 30 min.
2. Homogenize.
3. Cool to 21°C.
4. Inoculate with 1% *Streptococcus lactis*, *S. cremoris*, or *S. lactis* var. *diacetylactis*.

Final acidity is 0.6% lactic acid.

cream darioles Small custard tarts topped with whipped cream and red currant jelly

cream, dry Storage: room temperature (below 70°F); shelf life 1 yr

cream, half-and-half sour Sour cream made from half-and-half; milk fat 10.5–18%, which is less than for sour cream

Types:

Bacterial culture added

Food-grade acid added (labeled “acidified”)

cream, heavy whipping Composition (fluid): moisture 57.7%; protein 2.5%; fat 37%; carbohydrate 2.8%; ash 0.4%

creaming Beating ingredients together, e.g., butter and sugar, or butter and flour

creaming properties Properties obtained by using a shortening that will incorporate large quantities of air and produce light baked goods

cream, light Also called coffee or table cream

Composition (fluid): moisture 73.7%; protein 2.7%; fat 19.3%; carbohydrate 3.7%; ash 0.6%

cream, light whipping Composition (fluid): moisture 63.5%; protein 2.7%; fat 30.9%; carbohydrate 3.0%; ash 0.5%

cream liqueur A mixture of thick milk cream and whiskey blended with flavors to produce a cloudy liqueur See **cream (liquor)**

cream, medium Composition (fluid): moisture 68.5%; protein 2.5%; fat 25%; carbohydrate 3.5%; ash 0.5%

cream nut See **Brazil nut**

cream of tartar (rochelle salt; sodium potassium tartrate) 1) Acid salt of tartaric acid; potassium acid (hydrogen) tartrate ($\text{KHC}_4\text{H}_4\text{O}_6$); potassium bitartrate; used as an ingredient in some baking powders and used as a buffer in food

See also **baking powder**

$\frac{1}{2}$ volume cream of tartar + $\frac{1}{4}$ volume baking soda = 1 volume baking powder

1 tsp cream of tartar = 3.1 g

2) Lees in wine

Cream of Wheat Proprietary name of a breakfast cereal made of wheat flour (endosperm) with added vitamins and minerals

1 cup, dry = $1\frac{1}{3}$ oz

See Part 2: Portion Size

cream pea See **pea, black-eyed**

cream puff A pastry shell [made of flour (1 volume), water (1 volume), fat (1 volume), eggs, sugar, salt, and seasoning] filled with whipped cream or custard; more tender than popovers due to additional quantities of fat and eggs

Storage: refrigerate immediately

See Part 2: Storage Times

cream-sauce dressing A dressing made with cayenne pepper, cream, lemon juice, salt, and vinegar

cream (crème) sherry A wine of special richness, e.g., sweetness

cream soda A flavor of carbonated beverage; a caramel colored soft drink flavored with sugar and vanilla

cream soup A vegetable soup containing, e.g.,

1 tbsp flour

$\frac{1}{2}$ cup milk

$\frac{1}{2}$ cup vegetable cooking water or cooking water and pulp

1 tbsp fat

Salt and seasoning to flavor

See Part 2: Calcium Equivalents for Milk

cream, sour Made by adding bacterial culture to a fresh light cream; the (lactic) acid produced will sour the cream and give it a characteristic flavor and a semifluid to semisolid body; min. 18% milk fat

cream, sour, dressing See Part 2: Dairy Products, Composition II

cream, whipping See **cream; whipping cream**

creamy 1) Describes a texture that is smooth and oily, similar to an emulsion of fat or cream. 2) Describes a flavor, apparent fat content, or richness

creamy dressing Cream added to French dressing, salad dressing, or mayonnaise and used on greens and vegetables

See Part 2: French Dressing Variations; Salad Dressing and Mayonnaise Variations

creasing Mature and overripe oranges and mandarin-type citrus fruit sometimes show furrows ($\frac{1}{4}$ in. by $\frac{1}{2}$ –2 in.) caused by a weakness or uneven thickness of the albedo; a furrow may be longitudinal, crosswise, or both. In some cases the sunken area may be yellowish green to gray and in some cases the skin will split (the cause is unknown).

creatin(e) A nitrogenous constituent [$\text{NH}:\text{C}(\text{CH}_2) \cdot \text{N}(\text{CH}_3) \cdot \text{CH}_2\text{COOH}$], found in muscles, muscle fluid, brains, and blood, that combines with phosphate to produce creatine phosphate See **phosphocreatine**

creatinine A basic derivative of creatine, found in urine

Crécy, à la Cooked with carrot

creep feed A supplementary feed given and consumed by young animals in a creep area (an area that larger adults cannot enter) usually prior to weaning of young

creeping bent (*Agrostis palustris*) A grass used for turf, pasture, and hay

crema A soft cream cheese, made from cow's milk, that has matured for 1 week

crema de Lima A citrus liqueur

crema danica A bar-shaped (150–200 g) camembert-type cheese made from cow's milk

crème A term used to describe a very sweet liqueur; cream

crème brûlée Custard with caramelized sugar *See* **burned cream**

crème d'amandes A sweet liqueur flavored with almonds

crème d'ananas A pale yellow pineapple liqueur

crème de bananes A sweet, yellow to white, banana-flavored liqueur

crème de cacao A syrupy liqueur flavored with cocoa (from the cacao plant) *See also* **cacao; liqueur**

crème de café A coffee liqueur

crème de cassis A black currant (*Ribes nigra*) liqueur

crème de fraises A strawberry (*Fragaria*) liqueur

crème de framboises A raspberry (*Rubus*) liqueur

crème de genièvres A liqueur made with macerated juniper (*Juniperus*) berries

crème de gruyère A processed cheese made from various types of cheeses that are melted together and to which butter, milk, or cream is added

crème de mandarines A liqueur made from brandy and the peel of blood oranges

crème de menthe A green or white digestive liqueur flavored with mint *See* **liqueur**

crème de moka A sweet liqueur made from spirits and oil of coffee

crème de noisettes A liqueur with floating hazelnuts

crème de noix A sweet liqueur flavored with walnuts

crème de noyau (noyau) A sweet, pink-yellow liqueur flavored with peach and apricot kernels or fruit stones (e.g., sloe cherry)

crème d'oranges A liqueur made with brandy, cherries, and oranges

crème de prunelles A sloe berry (*Prunus spinosa*) liqueur

crème de roses A liqueur flavored with oil of rose petals, vanilla, and sometimes citrus oils

crème de vanille A vanilla-flavored liqueur

crème de violette A sweet liqueur flavored with violet petals

crème fraîche An acidic, high-fat cream made from cow's milk and used as a dressing

crème pâtissière (baker's custard; confectioner's custard) A custard made of flour, eggs, sugar, milk, and vanilla and used as a filling

cremet A cheese made from cow's milk

Crème Yvette The proprietary name of a purple-colored violet-flavored liqueur

crenshaw A large melon that is rounded at the blossom end and pointed at the stem end, with a smooth, shallow-furrowed, deep golden yellow rind and pale orange, juicy flesh

creole cheese An unripened cream cheese made from cottage cheese curd and cream

creosote A substance, found as chimney deposits, that is initially liquid but dries to a solid or flaky form and is made from condensed organic vapors or condensed tar fog

creosote, coal-tar A distillate made from bituminous coal; used to treat wood for protection against rot and worms; wood creosote, not coal-tar creosote, is usually used for medical purposes. *See also* **fence post treatment**

crêpe A thin pancake made with fruit and flaming liqueur sauce

crêpes suzettes Thin pancakes, rolled with or without creamed meat filling and seasoned with brandy sauce

crépinette A small sausage encased in fat; a moist, uncooked, unsmoked French sausage made from medium-chopped, mildly seasoned pork stuffed into a pork casing

crepy A white French table wine

crescent A crescent-shaped breakfast roll

crescenza A soft, creamy, uncooked, milky, sweet, yellowish cheese made from cow's milk, with rennet; it is square-shaped, surface-bacteria-ripened, and cured 10–14 days, and is similar to Bel-Paese. *See* Part 2: Cheese, Vitamin Content

cresol A disinfectant that is a coal-tar product mixed with lye; phenol coefficient of 2; used at levels of 2–4%

Advantages: effective against bacteria and most viruses; nonirritating

Disadvantages: odor absorbed by food; poor solubility in hard water; should be used hot

cresol purple A pH indicator with a range of 7.4–9.0; it is yellow in the acid and purple in basic direction

cress (family Cruciferae) Several species of pungent-flavored vegetables whose leaf is used as food (in salads or sandwiches, as a garnish or condiment, or cooked like spinach); 15,000 seed/oz; germination time 1–3 days

Types:

American or land (*Barbarea praecox*)

Australian—pointed leaves

Belle Isle

Curled or double

Indian (nasturtium; *Tropaeolum majus*)—used in salads and as a substitute for capers

Varieties—Dwarf Mixed; Golden Glove; Tall Mixed

Plain-leaved (common, garden, golden, or peppergrass; *Lepidium sativum*)—easy to grow; leaves

are broad or divided and culled; mildly pungent and used as a garnish

Varieties—Cardamine; Fine Curled; Peppergrass; Pepperwort

Upland (*B. verna*)—somewhat bitter; used in salads and on sandwiches

Water (*Nasturtium officinale*)—small, round leaves, mildly pungent; used in salads

Variety—Rotundifolia See **water cress**

Winter (*B. vernapraecox*)—used in salads and with sandwiches

Variety—Upland

1 cup garden cress, boiled and drained = 6.3 oz

See Part 2: Planting Density; Vegetable Planting Chart; Vegetable Plants

cress, American (bank cress; Belle Isle cress; hedge mustard; land cress; upland cress) Used like water cress in salads

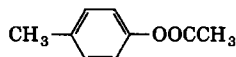
cress, meadow (lady's smock) A plant with a peppery flavor, used as a salad

cress, water (*Lepidium sativum*) A strong-tasting salad food

crest Top of the neck of a male animal; the comb on the head of a bird

cresta blanca A dry, fortified, alcoholic wine

cresyl acetate



Used as a floral-like, food flavoring agent; sp. gr. 1.044–1.052

Storage: full, tight, glass container in a cool, dark place

cresylic acid A commercial disinfectant with properties of phenol or cresol solution

creuse A soft, rennet cheese made with skimmed milk

crevalle jack A finfish with light meat and light to moderate flavor

cribber A horse that will set his teeth against an object and "suck air" or "wind"

crimp 1) Waves in wool fiber. 2) Crisp or brittle. 3) To seal or to form the edges of a pie, e.g., by using a fork. 4) To cut the sides of a fish prior to soaking to firm the flesh. 5) To press into place, e.g., to seal the end of a can by a series of folds

crimped Describes grain that has been rolled with corrugated rollers

crimson clover (Italian; *Trifolium incarnatum*) An annual plant used for hay and pasture; seed 60 lb/bu; seed 20–25 lb/acre; pH 6.0; approximate amounts of nutrients used for 1 ton of hay: N 65 lb; P₂O₅ 14 lb; K₂O 60 lb

crin-crin A leafy vegetable that is used like spinach

crinkle A viral disease of strawberries that affects the leaves

Control: Plant virus-free stock and use insecticides.

crinkleroot (*Dentaria diphylla*) A plant with an edible root that is boiled and used like a turnip

crinogenic Stimulating the production of secretions

Crisco Smoke point 448°F (231°C)

crisp Brittle; firm; crumbles easily; friable texture

crispbread A thin, low-fat, low-moisture biscuit made from high-extraction wheat or rye flour

crispy choy See **Chinese cabbage**

critical control point A quality attribute related to product safety or public health, obtained through a hazard analysis (critical control point review)

critical defect A defect that could result in failure or malfunction involving safety of personnel or failure of the end product to perform its intended function

critical factors Any parameter that, when varied, may affect the process and particularly sterility

critical temperature Temperature below which energy must be used to maintain body temperature

CRO Central Research Organization

croaker (crocus; drum; golden croaker; hard-head) A fin fish, with lean, light meat and light to moderate flavor, that makes a croaking sound

Atlantic croaker (*Micropogon undulatus*)—caught on the Atlantic and Gulf coasts

Black (*Argyrosomus nibe*)—Pacific

Corb (*Umbrina cirrosa*)—Atlantic and Mediterranean

West African (*Otholitus nebulosus*)

West South American (*Paralonchurus peruanus*)

White (*A. argentatus*, *Genyonemus lineatus*)—Pacific

Yellow (*Pseudosciaena manchurica*)—Pacific

Yellowfin (*Umbrina oncador*)—Pacific

Composition: moisture 79%; protein 18–19%; fat 1–3%; ash 1.3%

crockery cooker See **slow cooker**

croissant 1) A light, crescent-shaped, high-fat breakfast roll that is high in milk and made with wheat flour. 2) A soft French cheese

crone An old ewe that is past breeding

crook See **nubbin**

crookneck A variety of yellow summer squash with a curved neck

Types:

Summer

Mammoth—yellow, warted skin; yellow flesh

Straightneck—golden, watery flesh

Yellow—warted skin; tender, cream-colored flesh

Winter—yellow, warted, thick skin

See **squash**

crop 1) In a beef animal, from topline to halfway down the side and just behind upper half of the shoulder. 2) First stomach of a bird. 3) A riding whip. 4) To cut or trim. 5) Forequarter (less shanks and brisket), from which either or both ribeye roll (cube roll) and chuck tender may be removed

crop acreage base The average number of acres planted to and considered planted to a program crop for harvest in the previous 5 years

crop insurance Given by a federal crop insurance corporation from which farmers can purchase insurance against crop disasters

crop meat The forequarter (less shank and brisket), from which either or both ribeye roll (cube roll) and

- chuck tender may be removed, with no more than one of the following removed: clod, chuck, or neck (clod and sticking)
- crop residue** The forage remaining after harvesting a seed or grain crop
- croque-monsieur** A deep-fried ham-and-cheese sandwich
- croquette** A meat, fish, or vegetable that is chopped, shaped, rolled in crumbs, and deep fried (at 190–196°C or 375–385°F)
- crostne** A tuber that is used for food; may be cooked or used as a salad
- cross** To breed two varieties (of a plant or an animal)
- cross-bred** An animal whose sire and dam come from different breeds; of mixed parentage
See Part 2: Sheep Breeds
- cross cells** The layer of a kernel beneath the mesocarp
See Part 2: Corn Kernel; Rice Kernel; Wheat Kernel Parts
- cross compliance** A requirement that a farmer who wishes to participate in a price support program must also meet the program provisions for other major program crops that the farm grows
See **offsetting compliance**
- crosscut shank** A coarse-grained cut of meat made by cutting across the foreshank
- cross-fertilization** The fertilization of the flower of one plant by pollen from another plant
- cross-firing** Hitting a front foot with an opposite hind foot
- crossover** The part of the double seam at the juncture with the side seam of the body of a can
- cross-pollination** The transfer of pollen from one flower to another of a different variety; necessary for fertilization and fruit growth and development
- cross rib roast** See **arm roast**
- cross Vermont** A cracker containing no sugar
- crotalaria** Several species (of the genus *Crotalaria*) of an annual green manure crop; seed 60 lb/bu; use 20 lb/acre; pH 6; crotalaria seed may injure livestock
Species:
Lace leaf (*Crotalaria lanceolata*)
Showy (*C. spectabilis*)—contains an alkaloid
Slenderleaf (*C. intermedia*)
Striped (*C. striata*)
See Part 2: Poisonous Plants; Seed, Germination
- crotch fat** Fat from the scrotal or pubic region
- crottin** A French cheese, made from goat's milk, with a natural rind
- crottin de chavignol** A small, dry French cheese, made from goat's milk, with a white-mold rind (sometimes dark brown or black) and with a close, white curd and a mellow to sharp, salty flavor
- croup** On a horse, between hips and tailhead; called the rump on other species of farm livestock
- croupion** Strip of hide from the back of a hog carcass containing the bristles
- croustade** 1) A fried pastry used as a base for cooked meat items. 2) A toasted case used for serving creamed food
- cROUTON** A cube of dry-toasted or sautéed bread; small cubes ($\frac{1}{2}$ – $\frac{3}{4}$ in.) of deep-fried bread used as a garnish
- crowberry (crakeberry; *Empetrum nigrum*)** A wild, hardy shrub with berries used like cranberries
- crowdie** 1) A panir-type cheese made from cow's milk. 2) Porridge (crowdy)
- crowdy** See **crowdie**
- crow hops** A mild bucking motion
- crown** The area of the union of root and stem or root and leaves
- crown gall** 1) A bacterial (*Agrobacterium tumefaciens*) disease of blackberries and raspberries; on black and purple raspberries wartlike growths appear on canes and on red raspberries wartlike growths occur just below the soil level on roots and on crown. Control: plant gall-free raspberries; wait 2–3 yr before replanting raspberries in location where gall occurred; dig up and burn diseased plants. 2) A root and trunk disease of American bunch grapes; cannot be controlled by spraying because the organism lives in the soil. 3) A bacterial infection of apricot trees that infects large roots or crowns and produces irregular gall enlargements
- crown roast** A roast made from an unsplit rib rack: the backbone is removed, opposite end ribs are tied together, and the tip of the ribs are frenched.
See Part 2: Lamb Crown Roast Carving; Lamb Cuts and Uses; Lamb Roasting; Pork, Cooking; Pork Cuts; Pork Loin Cooking; Veal Chart; Veal Cuts
- crown rot** A decay (from wound parasites) of the crown surfaces of boxed bananas (the area darkens in color), caused by several fungi:
Botryodiplodia theobromae
Deightonella torulosa
Fusarium roseum
Gloeosporium musarum
Thielaviopsis paradoxa
Verticillium theobromae
See **armillaria root rot**
- crown vetch (*Coronilla varia*)** A deep-rooted perennial legume that requires a special inoculant; used for pasture and erosion control
- Crozes-Hermitage** A dry white or red wine
- CRT** Cathode ray tube; used to denote a television set intended for use as a monitor to display computer program instructions and data
- crucible** A small platinum or porcelain container that can stand high heat and is used in chemical analysis
- Cruciferae** Mustard, watercress, cabbage, and radish family
See Part 2: Vegetables Classification
- crude fat** See **fat analysis**
- crude fiber (crude fibre)** The unprocessed cellulosic component of a plant. Analysis is an attempt to measure the nondigestible carbohydrate material; the sample is freed of fat and boiled in weak acid and then in weak alkali; the residue thus contains crude

228 crude fiber (crude fibre)

fiber and ash, and thus the loss in weight by ashing is reported as crude fiber. The quality of some pure spices can be determined by the amount of tasteless lignin and cellulose found in the plant materials.

See Part 2: Sodium Hydroxide Solution; Sulfuric Acid Solution

crude oil Unrefined petroleum, used as an insecticide for hogs

crude protein A measure of protein content:

$$\text{crude protein} = \text{nitrogen content} \times 6.25$$

(The factor 6.25 is an average value and needs to be adjusted for some foods.) This includes true protein plus the protein equivalent of nonprotein nitrogen (NPN)

crude protein determination See Kjeldahl determination

cruller A cake made from doughnutlike dough flavored with nutmeg and ginger and fried in deep fat

crumb To dip food in milk or eggs and to coat with bread or cracker crumbs

crumble To break with the hands into small pieces

crumbles Pelleted feed reduced to granular form

crumbly Describes the ease with which a substance can be separated into smaller particles

crumpet (pikelet) An English breakfast or tea cake that is baked on a griddle and toasted prior to serving; a muffin made in hoop (circular) molds; toasted and butter-soaked round tea muffins that contain holes

crunchy Describes food that makes a grinding or crushing sound as it is being masticated

crushed lug A lug or cap that was forced over glass lug, causing the cap lug not to seat under the glass lug

crust 1) The outer, high-temperature baked portion of bread. 2) The browned external surface of any cooked item (e.g., bread, a casserole, or meat). 3) Sediment in wine, composed of salts; wine with sediment needs careful decanting. 4) The shell of a crustacean

crustacean A member of a class of shellfish (*Crustacea*) that have a segmented, crustlike shell and jointed appendages, i.e., crab, crayfish, lobster, prawn, and shrimp

See Part 2: Fish and Shellfish Composition

crustas An alcoholic drink similar to a cocktail but the glass is lined with lemon peel and the rim frosted with sugar

crusty Having a coarse, dry, hard surface

crusty bread French bread

cryogenic freezing Freezing using a liquid of low boiling point, e.g., dry ice (-98°C), liquid nitrogen (-195°C), or liquid nitrous oxide (-78°C)

cryolite (Na_3AlF_6) An inorganic insecticide

Cryovac Trademark of organic chemicals division of W. R. Grace & Co.; a vinylidene chloride-vinyl chloride film that can be heat-shrunk

cryptorchidism (ridgling) Retention of one or both of the testes within the abdomen (not in scrotum)

crystal That structure of matter that is characteristic of the solid state: the constituent atoms are arranged in a geometric pattern called a lattice, which may be of many different shapes (cubic, rhomboid, etc.). Identification can be obtained by X-rays, which are diffracted by the lattice at various angles. See also amorphous

crystalline Describes the systematic arrangement of atoms in space; resembling a crystal; transparent; clear

crystallization See granulation

crystallize To cause the formation of sugar crystals in food

crystallized cream See candy

crystallized fruit Fruit heated (230°F) in thick syrup, soaked, and drained See candied fruit

crystallized honey Honey that has naturally hardened or has been made to harden (crystals have formed)

crystallizing Forming a sugar coating

crystal violet broth See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

crystal violet strain See Part 2: Gram Stain

Cs Symbol for the element cesium

csabai csipos Hot pepperoni made from beef or pork

csabai salami Pepperoni made from beef and pork; a dry, uncooked, smoked Australian sausage made from coarsely ground, heavily seasoned (with paprika) beef, fermented and stuffed into artificial casings

csalamade A salad made from cabbage, green pepper, onion, shallot, sour cream, tomato, and vinaigrette

csemege saalami A pepperoni made from beef and pork

CSIR Council for Scientific and Industrial Research

CSIRO Central Scientific and Industrial Research Organization

CSMA Chemical Specialties Manufacturers' Association

csopaki olaszrizling A light Hungarian wine

CSRS See Cooperative State Research Service

CT Cellar trimmed

Cu Symbol for the element copper

cuajada A semisoft, mildly acidic, smooth cheese made from cow's milk and wrapped in maize or banana leaves

cuarenta-y-tres A golden-colored herb liqueur flavored with vanilla plus 43 herbs, with a brandy base

Cuba libre A rum drink

Cuban roast See French roast

cube To cut into small cubes (larger than dice)

cubeb (*Piper cubeba* L.) The pepperlike berry of a climbing plant, used mainly medicinally and some-

times as a spice or flavoring agent in food; a volatile oil obtained by steam distillation of the fruit; an essential oil used in flavorings; sp. gr. 0.897–0.928

Storage: full, tight, glass container in a cool, dark place
See Part 2: Essential Oils

cube steak A thin slice of beef that has been passed through a machine that reduces toughness by partially disintegrating the fibers

cubic centimeter (cc; cm³; cu. cm) A measure of volume

1 cm³ = 0.999972 milliliter (ml)
= 0.27051 dram (U.S., liquid)
= 0.0610234 cubic inch (in.³; U.S.)
= 0.0338 ounce (oz; U.S., fluid)
= 0.002113 pint (pt; U.S., liquid)
= 0.001057 quart (qt; U.S., liquid)
= 0.001 liter (l)
= 2.6417 × 10⁻⁴ gallon (gal; U.S., liquid)
= 2.1997 × 10⁻⁴ gallon (gal; Imperial)
= 3.5314 × 10⁻⁵ cubic foot (ft³; U.S.)
= 2.83776 × 10⁻⁵ bushel (bu; U.S.)
= 1.3079 × 10⁻⁶ cubic yard (yd³; U.S.)
= 1 × 10⁻⁶ cubic meter (m³)

A cubic centimeter of water weighs approximately 1 gram.

cubic decimeter (dm³) A measure of volume

1 dm³ = 1000.0 cubic centimeters (cm³)
= 61.0234 cubic inches (in.³)
= 1.05668 liquid quarts (liquid qt)
= 0.99997 liter (l)
= 0.90808 U.S. dry quart (dry qt)
= 0.264178 U.S. liquid gallon (liquid gal)
= 0.22702 U.S. dry gallon (dry gal)
= 0.035314 cubic foot (ft³)
= 0.02838 U.S. bushel (bu)
= 0.001308 cubic yard (yd³)

cubic feet per minute (cfm; ft³/min) A measure of flow

1 ft³/min = 472.0 cubic centimeters per second (cm³/sec)
= 62.43 pounds of water per minute (lb water/min)
= 0.4720 liter per second (l/s)
= 0.1247 gallon per second (gal/s)

cubic feet per second (ft³/s) A measure of flow

1 ft³/s = 0.646317 × 10⁶ gallons per day (gal/day)
= 448.831 gallons per minute (gal/min)

cubic foot (cu ft; ft³) A measure of volume

1 ft³ (Br.) = 2.831677 × 10⁴ cubic centimeters (cm³)
1 ft³ (U.S.) = 28317.016 cubic centimeters (cm³)
= 2.8316 × 10⁴ milliliters (ml)
= 7660.60 drams (U.S., fluid)
= 1728 cubic inches (in.³)
= 997.37 ounces (oz; Br. fluid)
= 957.568 ounces (oz; U.S. fluid)
= 62.427 pounds of water at 4°C (lb water, 4°C)
= 59.844 pints (pt; U.S., liquid)
= 29.9221 liquid quarts (liquid qt; U.S.)
= 28.3170 cubic decimeters (dm³)
= 28.31625 liters (l)
= 25.7140 dry quarts (dry qt; U.S.)

= 7.48055 liquid gallons (liquid gal; U.S.)

1 ft³ (U.S.) = 6.42851 dry gallons (dry gal; U.S.)
= 6.229 gallons (gal; Br.)
= 0.80357 bushel (bu; U.S., dry; approx. $\frac{4}{5}$ bu)
= 0.2832 hectoliter (hl)
= 0.23743 barrel (bbl; U.S.)
= 0.118739 hogshead (U.S.)
= 0.03704 cubic yard (yd³)
= 0.02831701 cubic meter (m³)
27 ft³ (U.S.) = 1 cubic yard (yd³; U.S.)
1 ft³ water = 62.4 lb

cubic inch (cu. in.; in.³) A measure of volume

1 in.³ (Br.) = 16.3870253 cubic centimeters (cm³)
= 0.003606 gallon (gal; Br.)
1 in.³ (U.S.) = 276.842 minims (Br.)
= 256.976 minims (U.S.)
= 16.387162 cubic centimeters (cm³)
= 16.3868 milliliters (ml)
= 4.4329 drams (U.S., fluid)
= 0.57651 ounce (oz; Br., fluid)
= 0.5541 ounce (oz; U.S., fluid)
= 0.03463 pint (pt; U.S., liquid)
= 0.01732 liquid quart (liquid qt; U.S.)
= 0.01639 cubic decimeter (dm³)
= 0.0163868 liter (l)
= 0.014881 dry quart (dry qt; U.S.)
= 0.004329 liquid gallon (liquid gal; U.S.)
= 0.003720 dry gallon (dry gal; U.S.)
= 3.606 × 10⁻³ gallon (gal; Br.)
= 0.000578704 cubic foot (ft³)
= 0.0004650 bushel (bu; U.S.)
= 1.37429 × 10⁻⁴ barrel (bbl)
= 0.00002143347 cubic yard (yd³)
= 1.639 × 10⁻⁵ cubic meter (m³)
231 in.³ (U.S.) = 1 liquid gal (U.S.)
1728 in.³ (U.S.) = 1 cubic foot (ft³)
2150.40 in.³ (U.S.) = 1 bushel (bu)

cubic meter (cu. m; m³) A measure of volume

1 m³ = 1 × 10⁶ cubic centimeters (cm³)
= 61023.38 cubic inches (in.³; U.S.)
= 2113 pints (pt; U.S., liquid)
= 1057 quarts (qt; U.S., liquid)
= 999.973 liters (l)
= 264.173 gallons (gal; U.S., liquid)
= 220.75 board feet
= 219.9 gallons (gal; Br.)
= 35.31477 cubic feet (ft³; Br.)
= 35.3144 cubic feet (ft³; U.S.)
= 28.3776 bushels (bu; U.S., dry)
= 1.307954 cubic yards (yd³; Br.)
= 1.3079428 cubic yards (yd³; U.S.)

cubic millimeter (mm³) A measure of volume

1 mm³ = 0.000061023 cubic inch (in.³)
= 1 × 10⁻⁹ cubic meter (m³)

cubic yard (cu. yd; yd³; U.S.) A measure of volume

1 yd³ = 7.646 × 10⁵ cubic centimeters (cm³)
= 46,656 cubic inches (in.³)
= 1615.9 pints (pt; U.S., liquid)
= 807.896 liquid quarts (liquid qt; U.S.)
= 764.559 cubic decimeters (dm³)
= 764.54 liters (l)

230 cubic yard (cu. yd; yd³; U.S.)

1 yd³ = 694.279 dry quarts (dry qt; U.S.)
 = 201.974 liquid gallons (liquid gal; U.S.)
 = 173.570 dry gallons (dry gal; U.S.)
 = 168.17 gallons (gal; Br.)
 = 27 cubic feet (ft³)
 = 21.6962 bushels (bu; U.S.)
 = 0.764559 cubic meter (m³)

cubic yard per minute (yd³/min) A measure of flow

1 yd³/min = 12.74 liters per second (l/s)
 = 3.367 gallons per second (gal/s)
 = 0.45 cubic foot per second (ft³/s)

cubing Compressing hay into cubes (1.25 × 1.25 × 2 in.)

1 ft³ = 30–32 lb of hay cubes

cucheole A rice and wheat-flour bread that is rich in eggs and fat and sometimes contains dried fruit

cucumber (*Cucumis sativus*) An annual vegetable (originally from the Mediterranean and Middle East) whose fruit is used as food; a climbing plant (10 ft); different varieties produce fruit of different shapes, sizes, and rind textures, the rind color of mature fruit is usually green (orange to yellow in some varieties); immature fruit may be red, green, or white; some reach 15-in. length; cucumbers may be eaten raw in salads (large), pickled (usually small), in soup, fried (5–10 min), boiled, or stuffed and baked; 48 lb/bu; seed 2–3 lb/acre; 1000–1100 seed/oz; $\frac{1}{2}$ oz per 100-ft row; plants 12 in. apart in rows 6 ft apart; germination period 3 days; matures in 70 days

Uses:

Pickling—2–6 in. long; picked every second day at desired size

Slicing—up to 12 in. long; medium size

Refuse: 15–30% (parings)

1 bu cucumbers, 4–6 in. long

= 40 lb

= 20 qt dill pickles

18 lb, 3–5 in. long

= 7 qt dill pickles (7–10 per quart)

5 qt, 1.5–3 in. long = 7 lb

= 7 pt gherkins

4 qt, sliced, med. size

= 6 lb

= 7 pt crosscut pickle slices

1 gal, med. size = 5 lb

1 med.-sized cucumber

= 1.2 cups, peeled, seeded, and chopped

1 med.-sized cucumber, seeded, shredded

= 1 cup

1 cucumber, 7 in. long = 200 g

1 cucumber, $7\frac{1}{2}$ × 2 in. = 10 oz, unpared

= 7.3 oz, pared

1 cup, pared and diced = 5 oz

1 cup, thinly sliced = 0.39 lb

= $\frac{1}{2}$ med. cucumber

1 slice, $2 \times \frac{1}{8}$ in. = 0.3 oz

1 serving = $\frac{1}{2}$ med.-sized cucumber

Types:

Green long English—15–36 in. at maturity; grown in greenhouses

Green long slicing—8–12 in. at maturity

Green pickling—5–7 in. at maturity; larger than green short pickling

Green Russian—10–12 in. at maturity; smooth and green, with a coat of fine hair

Green short pickling—4–5 in. at maturity; picked at 2 in. for pickles

Orange-fruited—immature fruit is orange with black spines

West Indian (*C. anguria*)

White-fruited

Cucumber type	Variety	Characteristics		Season
		Fruit	Vine	
Greenhouse (European)	Toska 70	14 in.; deep green	8% male blooms	
	Brilliant	16 in.	6% male blooms	
	La Reine (The Queen)	15 in.	No male blooms	
Pickling (mature fruit is small)	Burpee Pickler	Med. green; black spine; warted		53 days
	Chicago Pickling			
	Liberty Hybrid	Med. size; cylindrical; warted; black spine; dark green		Early; 54–65 days
	National Pickling			
	Peppi Hybrid	Long; tapering; dark green	Compact	48–50 days
	Pioneer Hybrid	3 in.; dark green		50 days
	Saladin Hybrid	5 in.; multipurpose	Vigorous	55 days
	Spartan Dawn Hybrid		Compact	50 days
Salad (used long for slicing, can be used for pickles when young)	Tiny Dill	3 in.	Compact	55 days
	West Indian Gherkin	2–3 in.; oval; tender spine	Low	60 days
	Burpeeana Hybrid	8 in.; dark green	Long-lived	58 days
	Burpee Hybrid	8 in.; white spine; dark green; white flesh	Vigorous; long-lived	60 days
	Burpee's M & M Hybrid	8 in.; dark green; white flesh		60 days

(Continued)

Burpless Hybrid	24 in. (harvest at; 10–12 in.) slender; can be pickled	Vigorous	62 days
Bush Whopper	7 in.	Dwarf	55 days
Cherokee 7 Hybrid	7 in.	Compact	60 days
Gemini Hybrid	8 in.; long; dark green		57–60 days
Lemon (Garden Lemon)	Large; white flesh; yellow skin		65 days
Marketer	8–10 in.; white spine; dark green		68 days
Marketmore 70	8 in.; dark green; straight		65 days
Park's Comanche Hybrid	Long; green		50 days
Park's Emerald (Damascus) Hybrid			Early
Patio Pik Hybrid	Multipurpose	Compact	51 days; early June
Spartan Valor Hybrid	Long; dark green		
Straight Eight	8 in.; cylindrical		58 days
Surecrop Hybrid	8 in.; deep green		58 days
Sweet Slice Hybrid	10–12 in.	Vigorous	62 days
Tablegreen	Straight; cylindrical; dark green	Large	68–80 days
Victory Hybrid	8 in.; straight; dark green		52–60 days
White Spine			

Composition (pared): moisture 96%; protein 0.6%; fat 0.1%; carbohydrate 3.2%; fiber 1.5%; ash 0.4%; pH 5.1

Storage: 45–50°F; 90–95% relative humidity; 10–14 days

See also **gherkin**; **pickle** entries

See Part 2: Cucurbit Crops, Spacing and Depth of Planting; Fruit and Vegetables, Diseases; Fruit Classification; Minerals, Food; Minerals, Plant or Animal Tissue; Nitrate, Vegetables; Olives and Pickles, Composition; pH Values of Biological Materials; Plant Foods, Composition; Planting Density; Spoilage, Carbohydrate Foods; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Tocopherols; Transit Temperature; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetables, Classification; Vegetable Storage; Vegetable Yields

cucumber beetle A pest that infests cucumber vines and fruit

See Part 2: Insect Control

cucumber mosaic virus Transmitted by aphids to tomato plants

cucumber pickle (pickled cucumber) Cucumber pickled in salt and allowed to ferment

cucumber root (*Medeola virginiana*) A perennial of the lily family that has a cucumber-flavored, bulbous root

cucurbit The inclusive name for chayote, cucumbers, gourds, musk-melons, pumpkins, squash, watermelons; a vine crop with both male and female flowers (some muskmelons have perfect flowers on the same plant with staminate flowers); the fruit is a pepo

See Part 2: Cucurbit Crops, Spacing and Depth of Planting

Cucurbitaceae A family of herbaceous tendril-bearing vines; e.g., cucumber, gourd, muskmelon, pumpkin, squash, and watermelon

cud (bolus) The portion of feed that ruminating animal returns to its mouth from its first stomach to be chewed a second time See **bolus**

cuissot de chevreuil rôti Roast venison that has been marinated in wine

cull 1) Stock (usually inferior) that is separated from a group and sold separately. 2) Any damaged or defective part. 3) To sort out defectives

See Part 2: Grades, Meat; Lamb Quality Guide

culloo A sweet, cloudy, white palm wine

cultivar A contraction of cultivated variety, now used in place of the word variety (but often used interchangeably with variety) to indicate a specific type of horticultural plant; hybrids or varieties produced under cultivation; cultivars may differ in growth habit, season of maturity, fruit color, fruit shape, etc. See **variety**

culture 1) A growth or cultivation of microorganisms. 2) A nutrient medium inoculated with specific microorganisms. 3) Microorganisms used to inoculate food. (A pure culture contains only one type of organism.)

cultured buttermilk Skim milk that has been fermented with a starter culture

cultured cream A low-fat sour cream

cultured dairy product Produced by bacterial cultures specific to the product (e.g., skim milk, buttermilk)

232 cultured dairy product

See Part 2: Cultured Dairy Products, Composition; Dairy Terms

cultured half-and-half The same as sour half-and-half

cultured pearl A pearl made by inserting foreign material into an oyster and allowing the oyster to deposit a coating called nacre on the material

culture media Nutritive substances such as agar that promote the growth of bacteria
See Part 2: Culture Media

cumberland A cold meat sauce of orange and lemon juice and peel, port wine, and red-currant jelly

Cumberland 1) A variety of red clover. 2) A large, white breed of British pigs

cumberland ham A country ham

cumin (cummin; *Cuminum cyminum*) An annual herb related to parsley, with a flavor similar to caraway, that is grown for its leaves, seeds (which are used in flavoring soups, pickles, and cheeses), and flowers (which are used as a garnish)

cumin (cummin) oil A volatile oil obtained by steam distillation of *Cuminum cyminum*; sp. gr. 0.904–0.926; used as a flavoring agent in food
Storage: full, tight, glass container in a cool, dark place

cuminseed (comino seed; cumminseed; *Cuminum cyminum* L.) A small ($\frac{3}{8}$ – $\frac{1}{4}$ in. long), dried, yellowish brown, oblong seed from a Mediterranean annual plant (related to parsley); used as a culinary spice with a distinctive, aromatic, hot, slightly bitter flavor, somewhat similar to caraway; available whole or ground; used in making curry powder, in Mexican cookery, in chili powder, and for flavoring cordials; similar to caraway seed but larger and lighter in color.

Uses: anchovies; bread; cheese; chili powder; cordials; curry powder; sausages; soups; stews

Composition: moisture 8–9%; protein 14–18%; fat 20–25%; carbohydrate 44–45%; fiber 9–11%; ash 7–8%; not more than 9.5% total ash; not more than 1.5% HCl-insoluble ash; not more than 5% harmless foreign matter

Storage: cool, dark, dry location

cumquat (Chinois; kumquat) A small citrus fruit; available fresh or packed in syrup, vinegar, or alcohol
See **kumquat**

cunic A treatment for internal parasites; mix 1 oz copper sulfate (bluestone) in 3 qt water, add $\frac{3}{4}$ oz of a 40% solution nicotine sulfate (Black leaf 40)
Dose per sheep: 1–4 fluid oz, depending on size

cunner (*Crenilabrus melops*; *Tautoglabrus adspersus*) A small, saltwater food fish

cup 1) A container used as a measuring vessel See also **measuring cup**
1 cup = 16 tbsp
= 48 tsp

See Part 2: Ladle Size; Volume

2) A cool, alcoholic, summer drink. 3) Fruit or liqueurs served hot or cold

cupcake A small cake made by cooking cake batter in a muffin tin
See Part 2: Grain Products, Composition

curaçao A sweet red or white liqueur flavored with peels of bitter Seville oranges and made from brandy or gin

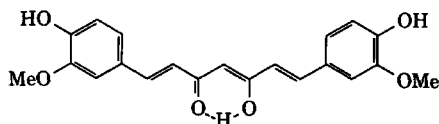
curassow A game bird

curb 1) Unsoundness. 2) A chain on a bit used to restrain a horse

curculio Any of several beetles ($\frac{1}{4}$ in. long, with long curved snouts, prominent humps, and ridged wing covers) that feed on newly formed nuts and new foliage See **plum curculio**

curcuma A plant whose dried rhizome is used in curry powder and in English mustard See **turmeric**

curcumin The major pigment of turmeric (*Curcuma longa*)



curd 1) Semisolid casein mass obtained by coagulation of milk with acid or the enzyme rennin; it is primarily protein, with some fat, sugar, and whey; the gel or precipitate (casein) of sour milk caused by the action of lactic acid on calcium caseinate forming free casein; the solid or casein portion of milk separated from the liquid (whey) by action of rennet or lactic acid; used in cottage cheese. 2) The edible, white portion of cauliflower
See Part 2: Vegetables Classification

curd cheese A general term for panir-type cheeses

curdy Describes the texture of the thickened, coagulated portion of milk

cure 1) A process to prepare for storage; to preserve; to treat with sodium or potassium nitrite or nitrate; the chemical or physical changes caused by heat, time, salt, nitrite, etc.; also applied to commercially blended cures (which contain salt and/or coloring agents and buffers in addition to nitrite(s) or nitrate(s))

Types:

Commercial sausage cure (e.g., Prague powder or modern cure)—sodium chloride (93.75%) and sodium nitrite (6.25%)

Injected primal cure—salt, phosphate, nitrite, and erythorbate (buffered) blend

Sausage cure—salt and nitrite blend

2) A medium-flavored, semisoft cheese made from cow's milk

cured and smoked pork A ham, picnic, or loin that has been cured and smoked, but that requires additional heating and should be refrigerated

cured beef tongue Max. gain in weight on curing is 10% over fresh uncured weight; smoked beef tongue should not exceed green weight

cured cheese Cheese that has been ripened by long aging; the flavor and texture characteristics of cheese are determined by the following:

Enzymes that develop

Microorganisms that develop

Length of storage time (ripening)

Mild cheese is cured 2–3 months and has slight flavor and a slightly rubbery body. Medium-aged cheese is cured up to 6 months and has a mellow body and smooth texture. Sharp (or aged) cheese is cured over 6 months and has a richer flavor.

cured meat Meat that has been processed in pickle or dry-cured with salt and nitrite and/or nitrate; after curing it may be given a smoke treatment.

curie (Ci) The amount of radioactivity produced by 1 g of radium; defined as 3.7×10^{10} atomic disintegrations per second; it is the basic unit used to describe the intensity of radioactivity of a radionuclide.

1 Ci = quantity of radioactive material that produces 3.7×10^{10} disintegration/s
= approximately 1 g radium
= 3.7×10^{10} becquerel (Bq)

See Part 2: Constants, Fundamental

curing Subjecting food to a preservation process involving various physicochemical changes in such food products as meats, fish, and cheese; meat may be cured by addition of certain chemicals such as sodium nitrite, salt, and sugar; some types are also subjected to the action of smoke. Curing can be used to impart flavor and/or to stabilize color.

See Part 2: Ham, Curing; Hide Curing; Meat and Meat Products, Composition; Meat Composition; Meat Curing Ingredients; Meat, Servings Per Pound

curium (Cm) A radioactive element of the actinide series; Group IIIB of the Periodic Table. at. no. 96; mass number of most stable isotope 247; oxidation state +3;
electron configuration 2–8–18–32–25–9–2
orbit K L M N O P Q

curl The extreme edge of the can cap that is turned inward when the double seam is formed

curled cress (peppergrass) A plant whose bright green leaves are added to salads or used as a garnish

curled mint (*Mentha aquatica crispata*) A 3-ft mint that is used as flavoring

curly dock (*Rumex crispus* L.) A perennial weed

curly endive A salad green with a large head composed of ragged, bitter-flavored leaves

current (*Ribes sativum*) 1) A shrub that produces a round, acid berry, with a thin skin, juicy flesh, and a number of seeds; fruit colors may be black, red, or white; available June–August; used in jams, jellies, juices, and pies and eaten raw. (This is a different fruit from “dried currant,” which is a seedless raisin.)
Types:

Black (*Ribes nigrum*)—very sour; used in cooking, syrups, jams, and cordials

Golden, buffalo, Missouri (yellow or black)—distinctive taste

Indian—sweeter

Red—sweeter; used raw and in jams, jellies, pastries, and syrups; bearing age 2 yr; yield/plant = 9 lb

White—sweeter, less acid; used in jellies, syrups, and desserts and eaten raw and in salads

Equivalents:

1 qt, fresh = 1.5 lb
= 2 pt, frozen

1 lb, dried = 3.25 cups
1 pt, frozen = 0.75 lb, fresh
1 cup, dried = 140 g (4.9 oz)
1 cup, fresh, without stems = 3.9 oz

Cultivar	Fruit	Skin	Flavor
Improved Perfection	Large		Good
Red Lake	Red	Tough	Good, tart
Wildier	Large; dark red	Tender	Good, tart

Composition (raw): moisture 84–86%; protein 1–1.7%; fat 0.1%; carbohydrate 12–13%; ash 0.6%; pH (red) 2.9–3.1

Composition (dried fruit): protein 2%; carbohydrate 63%

Storage: 32°F; 80–85% relative humidity; keeps 10–14 days

2) “Dried currant” refers to the small dried form of a specific large, seedless black grape or raisin. It is smaller, darker, and more tart than a seedless raisin.

3) The Sultana raisin is also called a currant in some areas.

1 qt = 3.75 cups
= 4–6 servings

1 lb, dried = 3–3½ cups

See Part 2: Flavor Ingredients, Taste and Flavor Type; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Minerals, Food; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Riboflavin, Food; Sugar, Fruit

currant bun A bun containing currants and candied citrus-fruit peel

currant jam Jam made from currants

Defect action level: average microscopic mold count of 75%

current (*I*; *i*) Rate of movement of electronic charge from one point to another; measured in amperes (A)

curry A stew made of meat, rice, etc. seasoned with curry powder (the “salt of the Orient”)

See Part 2: Minerals (Trace), Limits

curry dressing Dressing made with curry powder, garlic, lemon juice, olive oil, onion, peppers, and salt

curry powder A highly seasoned condiment that is a blend of many spices (e.g., allspice, black pepper, cardamom, cinnamon, cloves, coriander, cumin, fennel, fenugreek, ginger, mace, turmeric, red pepper, white pepper); used in seasoning; the flavor increases in potency in frozen foods; contains tumeric, which gives it color. (Tamarind pod is used in curry paste.)
Formulae and quantities differ widely.

Frequently used formula:

Coriander seed (36%)
Turmeric (28%; for color)
Cumin (10%)
Fenugreek seed (10%)
White pepper (5%)
Allspice (4%)
Yellow mustard (3%)
Red pepper (2%; for hotness)
Ginger (2%; for hotness)

234 curry powder

Other spices sometimes added are cardamon seed, cinnamon, cloves, garlic, mace, nutmeg, onion, peppercorn (black), poppy seed, and tamarind. Curry powder is used with fish, meat, poultry, and rice.

Composition: moisture 9–10%; protein 12–13%; fat 13–24%; carbohydrate 58–59%; fiber 16–17%; ash 5–6%

See also **pepper (capsicum)**

curry sauce

Composition	Dehydrated	Prepared with milk
Moisture (%)	4.2	79.3
Protein (%)	9.4	3.9
Fat (%)	23.1	5.4
Carbohydrate (%)	50.6	9.4
Fiber (%)	1.3	0.14
Ash (%)	12.7	2.0

curtailed sampling A sampling procedure where inspection is terminated as soon as a decision to accept or reject a lot is reached

curuba See **cassabanana**

cush A soup made with corn bread, milk, pork sausage, and seasoning

cushion 1) The most meaty portion, below the tail, of the rear leg of a meat carcass. 2) Meat cut in such a manner as to leave a pocket for stuffing

cusk (*Brosme brosme*) A large, saltwater, codlike finfish, used for food, that has white meat and a very light, delicate flavor

custard A dessert consisting of a thick mixture of eggs, milk, sugar, and flavoring; a thickening agent may be added. The liquid type is cooked at low heat in an open pan, but the solid type is oven-baked.

See Part 2: Calcium Equivalents for Milk; Calories, Daily Recommendations; Stabilizers, Thickeners; Storage Times

custard apple (*Annona reticulata*) A tropical fruit from trees of the genus *Annona*

Varieties:

Alligator, monkey apple—usually considered to be a poor variety

Bullock's heart—large, with soft prickles

Chirimoya (Peruvian)—usually considered to be the best variety

Ilama—good flavor

Soncuya—very aromatic

Soursop, prickly West Indian—elongated; purple skin

Sweetsop, Indian, scaly apple, sugar apple—sour-sweet taste

See **anonaceous fruit**

See Part 2: Fruit Composition; Fruit Storage

custard marrow (chayote; *Cucurbita pepo* var. *ovifera*) A squash; skin color may be green, orange, striped, or yellow and may be warted See **marrow**

custard pie

$\frac{1}{8}$ of a plain 9-in. pie = 250 calories

custom blend A unique formula produced for a food manufacturer

customs duty An EEC trading term that means a fixed percentage charge made on imported products

cut 1) Of shellac, the number of pounds of shellac gum dissolved in each gallon of pure alcohol. 2) To reduce to small pieces using a knife or scissors. 3) To blend. 4) To incorporate (coarse) fat into flour and other dry ingredients, usually with a knife

cutability Describes the following: the amount of usable meat in a carcass; yield; freedom from waste (e.g., fat and bone); the proportion of lean to fat in a carcass that can be used as trimmed, boned or partially boned, retail cuts. USDA cutability grades range from 1 (most lean) to 5.

See Part 2: Grades, Meat

cut code A fracture in the lid of a metal can due to improper embossing

cut in To work shortening into a flour mixture until a coarse meal texture is obtained

cutlet A small slice (boneless or bone-in) of veal or other meat cuts from the ribs or leg; often coated with bread crumbs

See Part 2: Braising Time; Meat Composition; Meat, Frozen Storage; Meat Identification; Pork Loin Cooking; Portion Size; Veal Chart; Veal Cuts and Uses

cut-out An animal separated from the group

cutter One grade better than canner

See Part 2: Grades, Meat

cutover A break in the metal at the top of the inside portion of a can's double seam

cut surface treatment Application of herbicide to cuts in the trunk of a woody plant

cutthroat trout (*Salmo clarki*) A food fish of the Pacific coast

cut through Damage to a can gasket caused by excessive vertical pressure

cutting Dividing with a knife and/or saw

cutting yield See Part 2: Beef Carcass, Cutting Yield

cuttlefish (inkfish) A 10-armed (or tentacled) marine mollusk with a calcified internal shell and a squidlike taste

Cuttlefish (*Sepia officinalis*)

Little, or lesser, cuttlefish (*Sepiella rondeleti*)

Ross cuttle (*Rossia macrosoma*)

See **squid**

cut-up poultry Any cut-up or disjointed portion of poultry or any edible part thereof

cutworm 1) The caterpillar of the turnip moth (*Agrostis segetum*), which feeds on plant stems at ground level. 2) Worms that feed at night on sugar beet plants, at or just below the soil surface, producing cut and/or wilted beet tops; in the daytime they are curled up beneath the soil.

Control: insecticide; parathion methyl; carbaryl

3) A peanut pest See **climbing cutworm**

cvicek A dark rosé wine

cwt Hundredweight (100 lb)

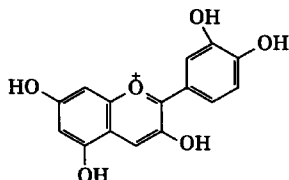
-cyan- A syllable meaning blue

cyanamid (cyanamide) (CaCN_2) A fertilizer material; 21-0-0; nitrogen goes through several states such as urea, ammonium, and nitrate; cyanamid is basic in nature and each pound is equivalent to 0.63 lb of dolomitic limestone

cyanazine See Part 2: Corn herbicides

cyanide A compound containing the CN group, such as HCN (hydrogen cyanide)
See Part 2: Water Drinking Standards

cyanidin One of the anthocyanidins responsible for the red color in fruits and vegetables

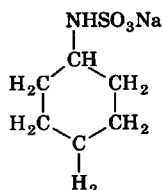


cyanocobalamin ($\text{C}_{63}\text{H}_{88}\text{CoN}_{14}\text{O}_{14}\text{P}$) An active form of vitamin B_{12}
See Part 2: Vitamins

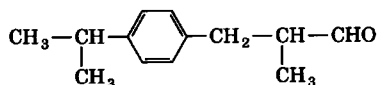
cyanogen (C_2N_2) A toxic gas used as a fumigant
See Part 2: Normal Solutions

cyanogenic glycoside See amygdalin

cyclamate Any of a group of non-nutritive sweeteners derived from cyclamic acid ($\text{C}_6\text{H}_{11}\text{NHSO}_4\text{H}$); because of their tendency to form a toxic and possibly carcinogenic compound, hexylamine, their use was prohibited in soft drinks and other food products by the FDA in 1970. The sodium form has a relative sweetness of 2500–3500 (where sucrose equals 100).



cyclamen aldehyde



Used as a flavoring agent in food; sp. gr. 0.945–0.952
Storage: full, tight, glass container in a cool, dark place

cyclic 1) Moving in cycles. 2) A chemical closed-ring formation

cyclic compound An organic compound in which the carbon atoms are arranged in a closed ring See also **alicyclic**; **aromatic**; **heterocyclic**

cycloalkane $[(\text{CH}_2)_n]$ A saturated cyclic series of compounds See also **alicyclic**

cycloalkene An unsaturated cyclic series of compounds See also **alicyclic**

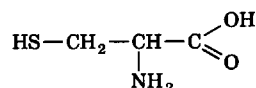
cyder See **cider (fermented)**

cyder royal A brandy distilled from cider

cymling A summer variety of squash

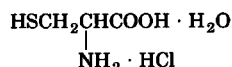
cyst A sac containing dead material (encapsulated necrotic material)

cysteine A nonessential, sulfur-containing amino acid



Can be oxidized to cystine; added to baked products to enhance the dough-improving effects of flour-treatment agents and as a nutrient
See Part 2: Amino Acids

cysteine monohydrochloride

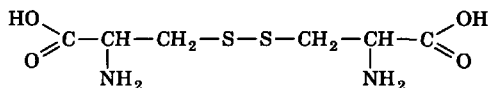


Used as a nutrient or dietary supplement
Storage: well-closed, light-resistant container

cysticercosis Infestation by tapeworm larvae (*Cysticercus bovis*); causes a “measles”-like appearance in beef

cystic fibrosis A disease that causes diminished secretion of digestive enzymes by the pancreas

cystine A nonessential, sulfur-containing amino acid that is used as a nutrient or dietary supplement
Storage: well-closed container



See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

cystine heart agar See Part 2: Microorganism, Media

cystine tryptic agar See Part 2: Microbiological Media

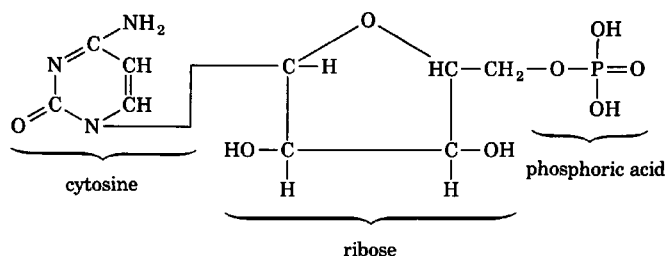
cystitis Inflammation of the urinary bladder

cyt- A prefix meaning vessel or cell

-cyte A suffix meaning cell, e.g., erythrocyte (red cell)

236 cytidylic acid

cytidylic acid An RNA nucleotide



cyto- A prefix meaning vessel, cell, tube, or cover, e.g., cytoplasm

cytochrome An iron-containing protein that transfers electrons along an oxidative pathway; there are many separate cytochromes in cells; they can be oxidized and reduced and play a major role in transporting hydrogen from substrate to atmospheric oxygen.

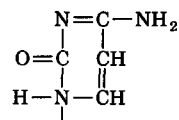
cytology The microscopic study of cells

cytoplasm Part of the internal portion of cell, which is divided into the following:

1. Cytoplasmic area—granular; high in RNA; involved in cell metabolism
2. Chromatinic, or nuclear, area—high in DNA; contains the genetic material
3. Fluid portion with dissolved nutrients

cytoplasmic membrane A thin structure located between the cell wall and the cytoplasm

cytosine A base found in nucleic acids (both in DNA and RNA)



cytosporina A fungal disease of apricot trees that occurs at pruning wounds and causes cankers

cytrynowa (lemon) A moist, cooked, double-smoked Polish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into an artificial casing

Czechoslovakian Food habits

Dairy products—cheese, milk

Fats—only small quantities used

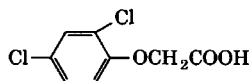
Sweets—only small quantities used

Vegetables—cabbage, carrots, legumes, potatoes, tomatoes

D

D Designates the right-handed (dextro) enantiomer (optical isomer) of a compound containing an asymmetric carbon atom; although such compounds (e.g., glyceraldehyde) are optically active, the D indicates only the structure of the compound, *not* the direction of optical rotation, which is shown by either *d* or a plus sign (+). *See also* **dextrorotatory**; **enantiomer**; **optical isomers**; **asymmetric carbon atom**

2,4-D (2,4-dichlorophenoxy acetic acid) An organic phenoxy herbicide that is moderately toxic and to which broadleaf plants are more susceptible than monocotyledonous species



daa A sorghum beer

daam A sorghum beer

dab A small, saltwater, flounderlike flatfish; refers to any of several species of flounder:

Dab

Limanda limanda—Europe

Rhombosolea plebeia—Oceania

Longhead dab (*Pleuronectes ferruginea*)—Atlantic

Long rough dab, American plaice—United States

Sand dab, rusty dab (*L. ferruginea*)—United States

Yellowfin sole—Western Pacific

See **plaice**

dabokolo A scone

daboo Yogurt

dacca A small, lightly pressed, cheese made from cow's milk, that is often smoked and is matured for 2 months

dace (*Rhinichthys atronatus*; *Tribolodon hakonensis hakonensis*) A small, freshwater, carplike food fish

D-activated A sterol that has been vitamin-D-activated by ultraviolet light or by other means

daddawa A type of dawadawa

dadhisara A sour cream that is used for making butter

dadih A yogurt made from buffalo's milk

dage Press cake of oilseed, legumes, or peels of starch plants that have been fermented

Dage bengook—bengook seed (*Mucuna pruriens*), a legume

Dage karet—karet seed (*Herea brasiliensis*)

Dage moonchang—moonchang or kemeree seed (*Aleurites moluccana*)

Dage pee-chong—pee-chong seed (*Pangium edule*)

Dage soo-ook—groundnut seed (*Arachis hypogaea*)

dagger nematode (*Xiphinema americanum*) A parasitic nematode that reduces the yield and quality of sweet potatoes

dagwood A multilayered sandwich made from many ingredients

dahi A yogurt or curd made from cow's or buffalo's milk

dahi kusum A sweetened yogurt

dahi puri A flat, fermented, deep-fried, wheat bread

dahl *See* **lentil**

dahlia An edible tuber with a flavor similar to an artichoke

dahm kook Chicken soup

daikon (**dikon**) A Japanese white, hot radish with a large (3 ft by 4 in.) root (may be eaten raw); a large turnip; it is often preserved by drying and fermentation used as a relish, in soup or part of a vegetable tray.

Storage: Wash and store in refrigerator.

See **radish**

daquiri An alcoholic beverage that is made from the juice of $\frac{1}{2}$ lime or $\frac{1}{4}$ lemon, 1 tsp sugar, and $1\frac{1}{2}$ oz (1 jigger) light rum, shaken with ice until frosty, and strained.

dairy An establishment in which milk and its products are processed

See Part 2: Microbiological Standards, Dairy

dairy cattle A collective term for commercial milk-producing animals

Many cows	25,100	
Some cows	36,000	1830
U.S. average	9,600	

Desirable first breeding age is 16–18 months; desirable age for having first calf 24–27 months; subsequent breeding 2 months after parturition; dry period 2 months prior to calving

See Part 2: Dairy Cattle Breeds

dairy character The points of the body that distinguish a dairy cow from any other type of cow

Dairy Herd Improvement Association (DHIA) An association that will assist dairymen in testing the production of a herd; milk weights are recorded and milk samples are taken from each cow.

Dairy Herd Improvement Registry (DHIR) An association similar to the Dairy Herd Improvement Association, but surprise tests are also given, and results are mailed to national breed organizations and the producer

dairy price support program A program that supports prices by government purchases of manufactured dairy products; maintains the minimum price for milk established by Congress

dairy products Milk, cream, cheese, and products made directly from them (e.g., ice cream)

See Part 2: Animal Foods, Composition; Calories, Daily Recommendations; Dairy Products, Composition; Dairy Terms; Glutamate; Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Mold, Food; Riboflavin, Food; Storage Times; Thiamin, Food; Vitamin A, Food; Vitamin D, Food

daisy 1) An iced alcoholic drink similar to the collins. 2) A shape of cheese with a diam. of 14–15½ in.; height 4–6 in.; weight 18–24 lb

daisy cheese A type of cheddar cheese See also **cheddar cheese**

dal See **dhal**; **lentil**

dalaki A thick porridge gruel made from sorghum or millet

dalapylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium-seasoned beef and lamb, with pork fat added, stuffed into an artificial casing

dalia A provolone-type cheese made from cow's milk

Dallis grass (*Paspalum dilatatum*) A perennial bunch-type grass used for pasture; seed 15 lb/bu; 12–15 lb/acre; soil pH 5–5.6

See Part 2: Seed, Germination

dalok See **burong mangga**

dalton (Da) A measure of weight
1 Da = 1.650×10^{-24} gram (g)

dam 1) A female parent (of animals). 2) A wine made from the flowers of the maura tree

damages Compensation given for injury to goods, persons, or property

d'Ambert See **forez cheese**

dambu A thick porridge gruel made from sorghum or millet

damen A soft, rennet cheese made from cow's milk

damenkäse A tilsit-type cheese

Dam, H. The Danish biochemist who discovered Vitamin K

damiana An herb used for tea

damiatta A white, brined cheese made from cow's or buffalo's milk (whole or skimmed)

damping-off A soil-borne disease that affects tomatoes, causing decay of seed or seedlings in the soil
Control: treat seed with thiram or dichlorone

damsel bug A pale gray insect that resembles the assassin bugs ($\frac{3}{8}$ in. long) and uses its forelegs to capture prey

Benefits: It feeds on aphids, fleahoppers, and small larvae of other insects

damson (*Prunus domestica*; *P. institia*) See **plum**

danablu A salty, sharp, blue-veined Danish cheese made from homogenized cow's milk See **Danish blue**

danbo A gouda-type cheese that is sometimes flavored with caraway seed

dandelion (priest's crown; swine's snout; *Leontodon taraxacum*; *Taraxacum officinale*) A plant whose leaves are used as greens and tea by some; the flowers are used for wine; a perennial herb whose ground root is used for dandelion coffee; seed $\frac{1}{2}$ oz/100-ft row; plants 6 in. apart in rows 15 in. apart; matures in 95–100 days; yield one bu/50-ft row
Composition (raw greens): moisture 81–86%; protein 2–3%; fat 0.7–1%; carbohydrate 9–11%; ash 2–5%
Varieties:

American Improved

French Large Leaf

Red-Seeded

Thick-leaved—95-day season; has large, thick, dark green leaves; used raw and for greens

Equivalents:

1 lb leaves = 4 servings

1 lb $\frac{1}{2}$ -in. pieces = 8 cups

1 cup, boiled and drained = 6.4 oz

Storage (leaf): in crisper in refrigerator; use within 1–4 days

dandelion-root extract Used as a flavoring agent

DANIDA Danish International Development Agency

Danish agar See **furcellaran**

Danish blue (**danablu**) A white, salty, sharp, blue-veined cheese made from cow's milk

Danish blue cheese A hard blue cheese similar to Roquefort

Danish bread See Part 2: Fermented Ingredients

Danish frankfurts A moist, cooked Australian sausage

Danish Landrace See **Landrace**

Danish pastry Bread with a layer of raisins between rolls of dough

Danish salami 1) A salami made from medium-seasoned, finely chopped beef or pork, usually with red color added and sometimes with cereal added. 2) A dry, uncooked, smoked Australian sausage made from finely chopped, mildly seasoned beef, fermented and stuffed into artificial casings

dan moogi Acidic, sweetened, carbonated Oriental radish

danni A white, brined cheese, made from sheep's milk, that is matured in whey

danskrull A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, mildly seasoned beef and pork, not stuffed into a casing

dansk schweizerost cheese A Danish cheese

danziger goldwasser A white alcoholic beverage that contains pieces of gold leaf

dao A full-bodied, dry white or red wine

daqno Sour diluted milk with millet and honey

darassun A millet beer

darirole A cylindrical food mold

darjeelinig See **black tea**

dark cutter A dark condition in the muscle of a fresh beef carcass caused by high pH (5.7–6.3) resulting from low muscle glycogen at the time of slaughter; no flavor of health hazard seems to be associated with this condition.

See Part 2: pH, Post Mortem

dark-field microscope A microscope equipped with a condenser that transmits only a thin cone of light, which reflects on small or slender objects and shows them against a black field

d'Arles See **arles**

darne A wedge of fish

darter See **perch**

Dartmoor A hill breed of British sheep

dash An approximate measure of volume: $\frac{1}{16}$ tsp of dry material, or 4–6 drops of liquid

dasheen (*Colocasia esculenta*) See **taro**
See Part 2: Planting Density

dashi A pale fish stock

Dasineura vitis An insect, commonly called a gnat or midge, that causes irregular, succulent galls known as tomato galls

daso See **fra-fra**

data (plural) Information, often referring to numerical information, e.g., carcass weight See also **datum**

date An oblong fruit with a grooved seed See also **date palm**

Types:

Dry and hard

Fibrous

Large—the only one that travels well

Equivalents:

1 cup, without pits, chopped = 5–8 oz

1 cup whole dates, pitted = 5.3–7 oz

1 domestic date, whole = 0.8 oz

1 imported date, whole = 0.22 oz

4.5 teaspoon sugar = 3–4 dried dates

date honey A syrup made from the juice of fresh dates

date palm (*Phoenix dactylifera*) A tall palm, originally from the Mediterranean and Middle East, that produces fruit (86% edible) in bunches (30 lb) that contain about 40 strands, each strand containing 25–35 dates; trees average 100 lb fruit per year.

Types of fruit:

Date sap—fermented to make palm wine or toddy; also used for sugar production

Dry dates—hard; can be ground into flour (70% sugar)

Semidry dates—sold in boxes, still attached to strand

Soft dates—sold in pressed masses; eaten raw or in confectionery (60% sugar); type usually exported

Type	Classification	Variety
Dry (bread)	Cane sugar	Kenta
Dry	Cane sugar	Thoori
Semidry	Cane sugar	Deglet Noor
	Invert sugar	Halawy; Saidu;
		Sayer; Zahidi
Soft	Invert sugar	Barhee; Braim;
		Dayri; Hayany;
		Khadrawy; Kustawy;
		Maktoom; Rhars

Domestic variety:

Deglet Noor—large; picked without artificial drying; light color (reddish brown), soft texture; less sugar than imported dates, moist and not as sticky; usually sold fresh

Imported varieties:

Fard—firm, sweet; mahogany-colored; thin skin; meaty with strong aftertaste

Hallowi (Halawy, Hallows)—golden color; medium size; mild-flavored and very sweet

Khadrawi (Kshdrawi, Khadrawy)—golden color; medium size; mild-flavored and very sweet

Sair—light mahogany color and thin skin; medium size; meaty and sweet

Equivalents:

1 lb whole dates, dried = 60 dates

1 lb, not pitted = 4–5 servings

1 lb pitted dates = $2\frac{1}{2}$ – $2\frac{2}{3}$ cups
= 6–8 servings

1 cup, pitted = 180 g (6.3 oz)

Composition (dry date): moisture 15–22%; protein 2%; fat 0.5%; total solids 75–88%; carbohydrate 64–80%; sugar 60–65%; ash 2%; pH 6.2–6.4; water activity 0.6–0.65

See **palm**

See Part 2: Fruit Availability; Fruit Classification; Fruit Composition; Fruit Storage; Minerals, Food; Plant Foods, Composition; Potassium-rich Foods; Storage; Transit Temperature

date-palm flour Flour made from the pith of the date palm tree

date plum A dried persimmon See **persimmon**

date sugar palm See **palm**

dating A method of granting extended credit terms that is used by the seller to induce buyers to receive goods in advance of required delivery date

datou Dark, brown, fermented balls of oil-rich seed; used in soups and stews

datum (sing.) A bit or item of information (“The datum is . . .”); the plural form is data—more than one item of information (“The data are . . .”)

daube Meat braised and flavored in stock

dauerwurst A firm-textured salami See **bierworst**, **Dutch**

dauphin A French cheese made from cow’s milk and flavored with cloves, peppers, tarragon, or parsley; made in various shapes

davalagyajsky See **bgug panir**

daventry A rich, dark, green cheese

Davie A variety of barley

dawadawa The fermented, dried seed of a leguminous tree (*Parkia biglobosa*); used as a flavoring

Dawetze A prolific, lop-eared, pork- and lard-type hog that is black with white feet; from Hunan (south central) province China

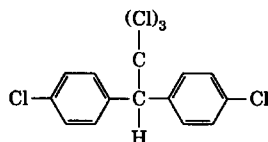
2,4-DB [4-(2,4-dichlorophenoxy) butyric acid] An organic phenoxy herbicide that is converted to 2,4-D by an enzyme system in the plant

DBMS (data base management system) The software that manages the relationship between the data in a data base and the computer programs that use the data

dc Direct current

DDD See TDE

DDT (dichlorodiphenyltrichloroethane) A chlorinated hydrocarbon insecticide that is toxic to fish and some birds; content in foods is limited to 5 ppm. Largely because of its ecologically damaging effects, it has been prohibited from use on food crops; it is highly persistent and not biodegradable. It is widely used in some foreign countries (e.g., India).



FDA maximum limits: fruit and vegetables 5 ppm; meat and milk 1 ppm

DE See **dextrose equivalent; digestible energy**

de- A prefix meaning down or from

deacon A young calf sometimes considered too young for food

deacon skin Skin from bob veal

deactivated serum Blood serum that has been heated to 56°C for 30 min so that it can be used for culture or cells of any species

dead-arm A fungal disease of American bunch grapes that occurs throughout the northeastern states
Control: A delayed dormant spray of bordeaux mixture (8 : 8 : 100) or two sprays of captan will protect against this disease.

deadhead (skidder; slip; spinner) An incomplete seam caused by slippage of the chuck in the end countersink portion of the lid during sealing See **skidder**

dead weight (dressed weight) Weight after slaughter

dead wool Wool taken from sheep shortly after death

deamination Removal of an amino ($-\text{NH}_2$) group from a compound

de Arles See **salami, d'Arles**

death The cessation of physiological activity; the absence of life

death camas A plant having a toxic principle
See Part 2: Poisonous Plants

debeaking Removing part of the beak of chickens to

prevent cannibalism

debilitating Weakening

debitter To remove a bitter taste

deboned Describes meat or fish from which the bones have been removed; boneless

deboniecka A semidry, uncooked, hot-smoked Polish sausage made from medium- or coarse-chopped, medium-seasoned pork stuffed into a beef casing

Debouillet A breed of sheep

See Part 2: Sheep Breeds

debresiner A moist, cooked, smoked Austrian sausage made from medium-chopped, heavily seasoned (with nitrite) beef and pork stuffed into pork and sheep casings with a diameter of less than 30 mm

debriciner A dry, uncooked Australian sausage

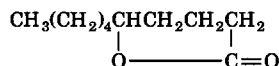
debro A sweet white wine

debroy harslevelu A heavy-vintage, medium-dry Hungarian wine

debt-asset ratio A measure used to determine financial soundness

decaffeinated coffee Coffee that has been treated with solvents to remove the caffeine (stimulating properties and bitterness)

decalactone



Used as a coconut-like, fruity, and butterlike flavoring agent in food

Storage: tight container

decalcifying solution A solution used to dissolve calcareous matter: 1 part nitric acid and 9 parts 70% alcohol

decanal [$\text{CH}_3(\text{CH}_2)_8\text{CHO}$] Used as a fat- to floral-like artificial flavoring agent in food; also occurs naturally in many foods

Storage: full, tight, glass container in a cool place

decanoic acid (capric acid) [$\text{CH}_3(\text{CH}_2)_8\text{COOH}$] A saturated fatty acid found in coconut oil and used as a defoaming agent and as a raw material for other food-grade additives

Storage: well-closed container

See Part 2: Saturated Fatty Acids

1-decanol (decyl alcohol) [$\text{CH}_3(\text{CH}_2)_9\text{CH}_2\text{OH}$] Used as an orange- and floral-like flavoring agent; sp. gr. 0.825–0.830

Storage: full, tight, glass container in a cool, dark place

decant To transfer (pour) a liquid (e.g., wine) carefully from one container to another, often leaving behind impurities or sediment

decanting Pouring wine from one container into another, often separating it from sediment

decarboxylase An enzyme that removes CO_2 from carboxylic acids

See Part 2: Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

decay The aerobic decomposition of organic matter due to bacteria or fungi

decenoic acid An unsaturated fatty acid

See Part 2: Milk, Fatty Acids, Seasonal; Unsaturated Fatty Acids

deci- (one-tenth; 0.1) A prefix for quantities that are one-tenth the size of the base unit

deciduous 1) Woody plants that lose their leaves at the end of each growing period (shed their leaves). 2) Falling off at maturity; e.g., fruits (apple, cherry, peach, pear, plum, etc.)

decigram (dg) A metric unit of weight

- 1 dg = 100 milligrams (mg)
- = 10 centigrams (cg)
- = 1.54324 grams (weight)
- = 0.1 gram (g)

deciliter (dl) A metric unit of volume

- 1 dl = 100.003 cubic centimeter (cc)
- = 100 milliliters (ml)
- = 10 centiliters (cl)
- = 6.1022 cubic inches (in.³)
- = 3.3815 ounces (oz; U.S., fluid)
- = 0.845 gill
- = 0.1 cubic decimeter (dm³)
- = 0.1 liter (l)

decimal reduction (D₁₀) The treatment or the radiation dose [in grays (Gy)] necessary to reduce a population (e.g., of bacteria) by a factor of 10, or one log cycle (10% survivors)

decimal reduction time (D; sometimes Z) The time required (in minutes) to kill 90% of the bacterial cells of a population at a given temperature

decimeter (dm) A linear measure

- 1 dm = 100 millimeters (mm)
- = 10 centimeters (cm)
- = 3.937 inches (in.; U.S.)
- = 0.1 meter (m)

decize A French cheese made from cow's milk

deckle The inner layer of meat and fat from a brisket
See Part 2: Beef, Boneless Cuts

decoction The liquid and soluble components that result from boiling a solid in liquid

decolorization The removal of pigments, often by passing through carbon filters

decomposition The breakdown into simpler compounds; rotting or decaying

decoquinate A drug used to prevent coccidiosis

decortification The removal of bark, husk, hull, or shell from a plant, seed or root; the removal of cortical substances of a structure or organ

deep-dish pie A fruit pie with a pastry top

deep-fat fry To cook in fat (at 350–360°F) deep enough to cover the product

deep-freezing Storing frozen foods, usually at temperatures of –18 to –40°C

deep-sea fillet See **hake and pollock**

deer (family Cervidae) A ruminant quadruped mammal that usually has antlers and whose meat is more lean than beef

Terms:

- Buck—male (of any species)
- Doe—female

Stag—male of the European red deer

Venison—deer meat

Types:

- Caribou—Newfoundland
- Fallow (yellow-brown, small)—Europe
- Moose—North America
- Red—Europe
- Reindeer—Scandinavia
- Roe—Europe
- Whitetail—North America

See Part 2: Gestation Periods; Meat and Meat Products, Composition

defatted Describes a product from which fat has been partially or wholly removed

defatted soy flour The primary flour made from soybean; chemical extraction of the fat has reduced it to less than 1%; protein 52–55%; crude fiber 2.5%; ash 6%

defecation 1) The voiding of fecal material from the rectum. 2) Clarification or purification, usually by coagulation of protein

defect An undesirable or substandard characteristic
See **critical defect**; **major defect**; **minor defect**

defect classification Categorization of standards to reflect degree of seriousness

defective Describes an item of substandard quality or appearance

See Part 2: Defectives in Lot

deficiency An inadequate amount, usually of a dietary nutrient

deficiency disease (nutritional deficiency disease) A pathological state that is characterized by clinical signs and is due to insufficient intake of energy or essential nutrient(s)

deficiency payments Payments made by the federal government to farmers when farm prices are below the target price

definition A measure of the sharpness of an optical image

defluorination The process of reducing fluorine to an acceptable level

defoamer (antifoamer; foam inhibitor) A substance that inhibits foam formation, e.g., glycerides

defrost To remove frost from a refrigeration unit; to allow frozen food to thaw

Meat	Thickness	Total defrosting time (in hours)	
		In refrigerator	At room temperature
Beef, pork, veal and lamb	1 in.	8	4
	1½ in.	9	5
	2 in.	10	7
	2½ in.	12	10
	Split chicken	11	5
Poultry	Split turkey (3½–6 lb)	14	7
Seafood		Cook from frozen state	

See Part 2: Defrosting Time

242 degeneration

degeneration A change from a better to a worse state

degermed Describes a product that has undergone the process of separating the embryo of a seed from the starchy endosperm

deglaze To add liquid to a pan in which meat has been cooked

deglazing Adding liquid to a pan in which meat has been cooked and then scraping up the cooked particles to make a gravy for serving meat au jus

deglutition The act of swallowing

dégorgement The removal of sediment formed during the second fermentation in a champagne bottle; it may be removed frozen or unfrozen

degrease To remove excess fat by skimming

degree (deg; °) 1) A measurement used for angles

1° = 3600 seconds (of arc)

= 60 minutes (of arc)

= 0.0175 radian (rad)

= 0.01111 quadrants

circle = 360°

2) A unit of temperature measurement *See also absolute temperature; absolute zero; Celsius; centigrade; Fahrenheit.*

3) Percentage of sugar used to make syrup, e.g., a 45-degree syrup is 45 lb sugar and 55 lb water.

degree of polymerization (DP) The number of anhydro-D-glucose units per molecule

degree per second (angular) The speed of angular motion

1 degree per second

= 0.1667 revolution per minute (rev/m)

= 0.0175 radian per second (rad/s)

= 2.778×10^{-3} revolution per second (rev/s)

degrees of freedom The number of unrestricted variables

degum To remove unwanted oxidation products

See Part 2: Margarine Production

degustation The act of tasting

dehair To remove hair in hog slaughter; to remove hair from hides by using a solution of 8 lb dehydrated lime in 4 gal water; the enzyme trypsin is also used

dehiding Removing hide or skin

dehorn To remove horns from animals; age (preferable) 1 week to 2 months

Methods:

Chemical—1–3 weeks old; clip hair and roughen skin until irritated; apply ring of Vaseline around the budding horn; apply caustic (stick, paste, or liquid)

Caution: the caustic will burn—keep off of body

Electric—age 2 weeks to 3 months

Mechanical—use fly repellent (e.g., pine tar)

dehulled Describes grain or seed from which the outer covering has been removed

dehydrated beet A natural food additive used for color

dehydrated food A food that has been dried naturally or in artificially heated and mechanically circu-

lated air to less than 5% moisture content (some products up to 8–10%)

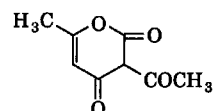
See Part 2: Meat and Meat Products, Composition

dehydrated soup Store at room temperature (below 70°F) in a metal container; shelf life of 1 yr

dehydration The removal of 95% or more of free water from a material by thermal means

dehydrator A dryer; a device for removing water

dehydroacetic acid (DHA)



Used as a food preservative

Storage: well-closed container

dehydrofrozen Describes a product from which a portion of the moisture has been removed and the product then frozen for storage

dehydrogenase An enzyme that can oxidize a substrate by removal of hydrogen

dehydrogenation The removal of hydrogen from a compound (a type of oxidation)

deidesheimer A highly flavored white wine

deionizer A device that removes minerals from water using an ion exchange resin

de jour Of the day

deka- (ten; 10) Prefix for quantities ten times larger than the base unit

dekagram (dag) A metric unit of weight

1 dag = 10 grams (g)

dekaliter (dal) A metric unit of volume

1 dal = 10 liters (l)

= 10 cubic decimeter (dm³)

= 9.08 quarts (qt)

= 2.6417 gallon (gal)

= 1.135 pecks

dekameter (dam) A metric unit of distance

1 dam = 393.7 inches (in.)

= 10 meters (m)

Delaine Merino A breed of sheep *See also Merino-C type*

Delaney amendment Provides that no additive shall be deemed to be safe if it is found to induce cancer when ingested by humans or animals and that no such additive may be used in animal feeds unless no residue of it can be found in food products obtained from the animal

Delaney clause Provides that any substance shown to cause cancer in humans or animals may not be added to food in any amount

Delaware 1) A variety of grape. 2) An American class of single-combed chicken that lays a dark-shelled egg; color, white to white and black bars

deleb palm *See palm*

delft A semihard, reduced-fat cheese made from cow's milk; usually wheel-shaped and sometimes flavored with cumin, clove, or caraway seed

delicatessen A shop that sells food that is ready for the table

delice de Saint Cyr A medium-sized (500 g) excellent-type cheese

Delicious See **Red Delicious** and **Golden Delicious**

delikateleberwurst A moist, cooked, unsmoked East German sausage made from finely chopped, medium-seasoned pork liver sausage stuffed into a pork casing

delinquent order A line item on the customer's open order that has a scheduled delivery date prior to the current date

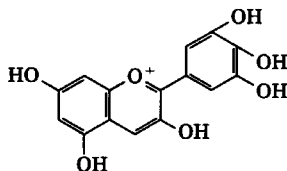
deliquescent Descriptive of a substance (usually water-soluble salts) that pick up water vapor from the air and gradually liquefy, e.g., sodium hydroxide

delivery The satisfaction of a futures contract position through the tendering and receipt of the material

delivery month The month specified in each futures contract for delivery of the material

Delmonico A cut of beef; a steak cut from the beef ribeye in some areas of the country, and cut from the chuck in other areas of the country
See Part 2: Beef Cuts; Roasting, Time and Temperature

delphinidin One of the anthocyanidins responsible for the red color in fruits and vegetables



delta (Δ , δ) Greek letter with English equivalent of "d"

deltoideus A muscle of the chuck filling the angle between the scapula and the humerus; it lies lateral to the triceps and attaches to the upper part of the humerus.

-dem- A syllable meaning people or district

demand The buyer's desire to possess a certain volume of goods; but the term also refers to the buyer's willingness and ability to buy

Good demand—buyers are more aggressive than usual or large or increased supplies are bringing prices that are unchanged or higher

Poor demand—buyers are less aggressive than usual or decreased supplies are selling at prices that are unchanged or lower

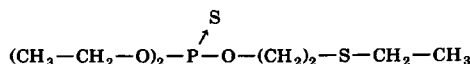
demerara rum A heavy, dark rum

demersal fish (white fish) Fish that live on the sea bottom; 40% edible portion; average analysis of the edible portion, 16% protein; most are less than 1% fat (halibut 4%), 80% water, 80 calories/100 g; types

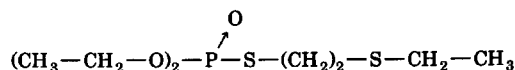
include bream, cod, dogfish, flounder, haddock, halibut, sole, whiting

demestica A white or red wine

demeton A poisonous insecticide; a cholinesterase inhibitor that is a mixture of



and



demijohn A large (up to 10 gal) glass, often straw-covered, wine container

demilivarot A soft to semisoft, strongly flavored, bacterial surface-ripened cheese made from cow's milk

demisel A soft, light, foil-wrapped French cream cheese made from whole cow's milk; the curds are homogenized and pressed.

See Part 2: Cheese, Vitamin Content

demitasse 1) A small ($\frac{1}{2}$ cup) cup of black French coffee served after dinner. 2) A cup used for serving strong, black, after-dinner coffee. 3) A coffee-and-cream liqueur

demulcent A protective substance used to coat and relieve irritations of membranes

demulsification The separation or breaking up of an emulsion; results from the coalescence of oil droplets

demurrage Detention of a vessel or railroad car beyond the agreed time by a delay in loading or unloading

denaturation 1) Causing a change in the molecular structure of a protein due to exposure to heat, pH modification, or contact with certain detergents; this is an irreversible process that results in reduction of the protein's enzymatic activity and solubility properties; also, it no longer performs its natural biological function. 2) A process that causes a change of form from the natural state

denatured alcohol Industrial alcohol to which has been added a low percentage of methyl alcohol or a number of other substances to make it unfit to drink (for taxation purposes)

deningding (dinengdeg) A boiled mixture of eggplant, long bean, meat or fish, squash, and tomato, with fermented seafood as a flavoring

denitrification A process that breaks down oxidized forms of nitrogen to nitrogen gas

denjang (doenjang; tenjan) A flavorful paste made from soybeans and rice or brandy

Denominazione di Origine Controllata (DOC) The law that controls the names and origins of Italian wines

Densimetric analysis Determination of concentration by determination of density

244 density

density The weight (in vacuum) per unit volume at a specific temperature

$$\text{density} = \frac{\text{weight}}{\text{volume}}$$

See also **specific gravity**

See Part 2: Planting Density

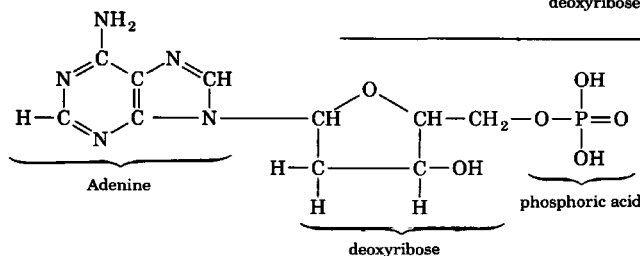
dent corn See **corn**

deodorant 1) A compound, such as aluminum chlorohydrate, that neutralizes the acids in perspiration. 2) A highly porous solid, such as activated carbon, that absorbs molecules of odorous gases

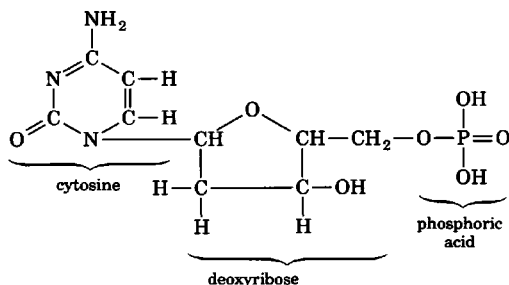
deodorization The removal of odor, e.g., by steam distillation of a fat under reduced pressure; reduces odor, free fatty acids, and color

See Part 2: Margarine Production

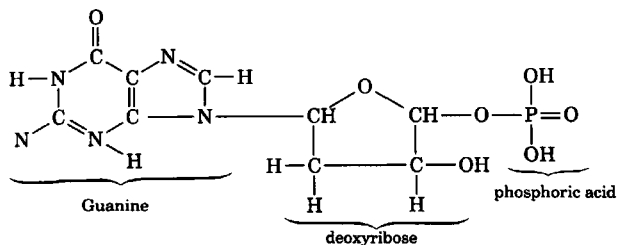
deoxyadenylic acid A DNA nucleotide



deoxycytidylic acid A DNA nucleotide

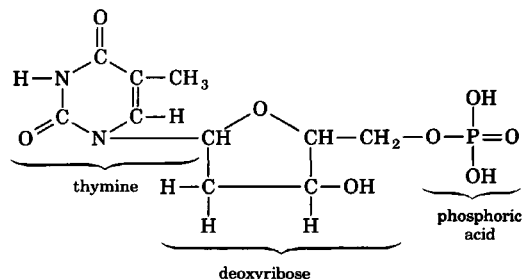


deoxyguanylic acid A DNA nucleotide



deoxyribonucleic acid (desoxyribonucleic acid; DNA) A nucleoprotein (nucleic acid + protein) whose extremely complex double-helix structure has only recently been determined; it controls the sequence of amino acids in the genes and thus programs the genetic code, which determines heredity.
See Part 2: Histochemical Test

deoxythymidylic acid A DNA nucleotide



depart The aftertaste of wine

DEPC See **diethyl pyrocarbonate**

depilatory Describes a substance or process that removes hair, e.g., scalding and scraping a hog carcass hide

depository or warehouse receipt (warrant) A certificate of physical deposit, issued by a bank or warehouse, that indicates ownership

depot fat Major deposits of fat, e.g., subcutaneous, kidney, or pelvic

depth The presence of a large amount of desired flavor in a wine

derby cheese A close-textured, hard-pressed, English cheddar-type cheese, made from cow's milk, with a pale honey color (sometimes with color added); it is mild when young but has a tang when matured (often for 6 months). Sage derby is flavored with sage leaves and other types are flavored with spinach. *See derbyshire cheese*

derbyshire cheese A hard, round, English rennet cheese made from whole milk *See derby cheese*

Derbyshire Gritstone A hill breed of British sheep

derinding Removing the rind of a cheese

derived protein A protein obtained by breaking up the large amino acid polymers (native protein) into smaller fragments

dermatitis An inflammation of the skin

dermatophyte A parasitic fungus of the skin, hair, or nails

DES Diethylstilbestrol

desalination Removal of salts from seawater or brine to make irrigation water and potable water; some form of distillation (flash distillation) and reverse osmosis are in general use.

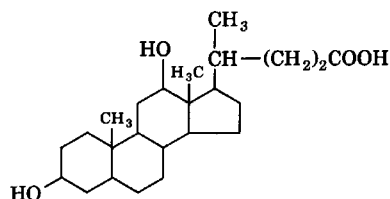
desertny bely A medium-sized (500 g) camembert-type cheese made from cow's milk and cured for 1 week

desiccate To dry completely

desiccation The removal of moisture; drying; dehydrating

desiccator A laboratory device for maintaining a dry (or constant humidity) atmosphere for experimental

desoxycholic acid (deoxycholic acid)



Used as an emulsifying agent in food, e.g., in dried egg whites

Storage: tight container

desoxycorticosterone A steroid hormone

See Part 2: Steroids

dessert The final course of a dinner or luncheon, usually a sweet dish such as pie, pudding, cake, or ice cream

Usual desserts:

America—sweets; frozen fruit

England—nuts; fruit; port wine

Europe—cheese; fruit; sweets

See Part 2: Portion Size; Stabilizers, Thickeners

dessert date A fruit that is similar to a date but bitter-sweet and grown on a small tree

dessertspoon 1 dessertspoon = 2 tsp

dessert topping (nondairy) A dry nondairy product that may be mixed with milk, or a semisolid (frozen) nondairy product used on dessert

Composition

Dessert topping (nondairy)	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Frozen	50-51	1-2	25-26	23-24	0	0.1-0.2
Powdered	1.5	4.9	39.9	52.5	0	1.2
Prepared with whole milk	66-67	3-4	12-13	16-17	0	0.8-0.9
Pressurized	60.4	1.0	22.3	16.1	0	0.3

samples; it is a sealed container in which has been placed an absorptive material, such as silica gel or calcium chloride

desirability Having pleasing or advantageous properties; often used in sensory evaluation

desolventization Removal of a volatile solvent to a specific maximum level

desoxycholate agar *See* Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

desoxycholate citrate agar *See* Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant; Microorganism, Media

desoxycholate lactose agar *See* Part 2: Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

dessert wine A wine, usually sweet, made from the fermented juice of grapes, with a high alcohol content and fortified with spirit

destructive distillation (pyrolysis) Decomposition by heating a solid material out of contact with air; destructive distillation of coal yields coal tar and coke; destructive distillation of wood yields turpentine.

detergent A surface-active organic compound that aids emulsification by lowering the surface tension of water, which makes water more efficient at dislodging and carrying away contaminants; common soap is an effective detergent; alcohol and linear alkyl sulfonates also have this effect.

Requirements for effective cleaning:

Corrosion resistance—inhibits the detergent from attacking metals

Emulsification—ties up contaminants to prevent redeposition

Penetration—allows the detergent to reach the surface

Sequestrants—prevent deposition of water scale from hard water

Suspension—envelops emulsified contaminants, making them more stable in solution

Wetting action (surfactant, or surface-active agent)

Classification	Detergent pH	Material removed
Acid	1	Phosphate and carbonate scales, water scale
		Proteins
		Starches
		Pectins
Neutral	7	Animal and vegetable fat
		Proteins, starches, cellulose
		Bacteria
		Modified vegetable oils
Base	14	

See Part 2: Detergent Properties; Detergents

detergent sanitizer A substance having properties of both a cleaner and a sanitizer

detinning A reaction between a product and the tinplate of a can, causing the tin to dissolve, exposing the base metal, and resulting in an off taste

detoxification (detoxication) The act or process of reducing toxic properties

deuterium (D; H²) Heavy hydrogen, at. wt. 2.0147

deveined shrimp Shrimp from which the shell and black sand veins have been removed

development The series of processes from the initiation of growth to death

deviations (x_1, x_2, \dots, x_n) Individual variations from the sample means, e.g., $x_1 = X_1 - \bar{x}$, where

X_1 = observation number 1

\bar{x} = sample mean

$\Sigma x = 0$

devil To place a seasoned paste on food before cooking; to season with mustard, pepper, or other spicy ingredients

Types:

Prunes rolled in bacon

Rich chocolate cake

With sauce

Brown sauce—made from butter, flour, mustard, and beef

Wet sauce—made from poultry, butter, and cream

White sauce—made from poultry and cream

See **deviled**; **potted meat**

deviled A highly seasoned, usually chopped or ground food See **devil**; **potted meat**

deviled ham Finely ground and seasoned ham; a finely chopped, cooked, unsmoked American sausage that is canned sterile or shelf-stable; used alone or as a base for dips or spreads See **deviled meat food**

deviled meat food A finely chopped, cooked, unsmoked American sausage that is canned sterile or shelf-stable See **deviled ham**

devilfish Angler fish

devil-in-the-bush See **nigella**

devil's food cake A rich chocolate cake

Composition: 402 mg Na/ $\frac{1}{12}$ cake (67 g)

Devon A dual-purpose type of cattle, red in color, originally from southwest England

Types:

Devon (North Devon, Red Rubies)—more compact and higher quality beef than South Devon; primarily used for beef

South Devon (Hams)—large, somewhat coarse; primarily used for dairy production

See Part 2: Beef and Dual-Purpose Cattle

devon A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned pork stuffed into artificial casings

Devon Longwool A British breed of longwool sheep

devonshire cream Cream and coagulated albumin skimmed from scalded (150°F max.) milk

devonshire cream cheese A small English cheese made from cow's milk

devonshire dough cake A heavily fruited tea bread

Devon, South A British breed of longwool sheep

dewberry (*Rubus alleghaniensis*) A berry similar to the blackberry except fruit is smaller, less compact, and ripens before the blackberry (ripe May through July)

Variety:

Lucretia—large, sweet, coreless berry

Frozen whole, with or without sugar or syrup

1 crate (24 qt), fresh = 32–36 pt, frozen

1 pt, frozen = $1\frac{1}{3}$ – $1\frac{1}{2}$ pt, fresh

Composition: moisture 85%; protein 1%; fat 1%; carbohydrate 13%; ash 0.5%

See Part 2: Fruit Classification; Fruit, Frozen Yield; Storage

dewberry, canned In addition to dewberries, may also contain natural and artificial flavors

Sucrose content of syrup:

Extra light < 14%

Light 14–19%

Heavy 19–24%

Extra heavy 24–35%

dewclaw In cattle, sheep, and swine, a horny growth at the rear of the pastern

See Part 2: Bone

dewlap Loose skin in the brisket and neck of cattle

dextranthenol



Used as a nutrient or dietary supplement

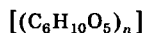
Storage: tight container

Dexter A small breed of English beef cattle, entirely red or black

See Part 2: Beef and Dual-Purpose Cattle

dextran (macrose) A polysaccharide produced by bacteria, particularly those using sucrose; made of glucose units linked α -D(1 → 6)

dextrin(e) (British gum; starch gum)



An intermediate product in the hydrolysis (by heat, roasting, or heat and acid) of starch to maltose, made up of glucose polymers (linear and branched); it is soluble in cold water, is low in viscosity; often used to prevent sugar crystallization, to encapsulate flavor, to stabilize foam, as a thickening agent, and as an adhesive; it has less thickening power than starch.

See Part 2: Stabilizers, Thickeners; Sweetening Agents

dextro- Right; right-handed See also **enantiomer**; **optical rotation**

dextrorotatory (d; +) Rotating polarized light to the right See also **optical rotation**

dextrose See **corn sugar**; **glucose**

See Part 2: Microorganism, Media; Minerals (Trace), Limits; Sweetening Agents; Sweetening Compounds

dextrose, anhydrous Dextrose crystallized without water

dextrose equivalent (DE) The reducing-sugar content of a sweetener calculated (in percentage of total dry substance) as if it were all dextrose

dextrose monohydrate Dextrose crystallized with one molecule of water per dextrose molecule

dextrose proteose agar See Part 2: Microorganism, Media

dextrose salt agar See Part 2: Microbiological Media

dextrose tryptone agar See Part 2: Microbiological Media; Microorganism, Culture Media, Dairy and Food Products

dezinc To remove zinc, e.g., by the chemical reaction of food with a C-enamel film that removes the zinc oxide

dhal (dal; dhol) Lentils See **broad bean**; **lentil**; **pigeon pea**

dhanya See **coriander**

DHHS Department of Health and Human Services [formerly the Department of Health, Education, and Welfare (DHEW)]

DHIA See **Dairy Herd Improvement Association**

dhokla A yellow bread made from rice and bengal gram (*Cicer arietinum*)

dhol See **dhal**

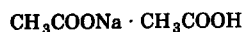
di- A prefix meaning two

diabetes mellitus A disorder that causes the body to lose some of its ability to oxidize sugar, due to poor supply of insulin from the islands of Langerhans in the pancreas, resulting in increased quantities of sugar in the urine

diabetin (d-fructose; levulose) See **fructose**

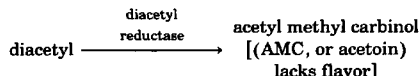
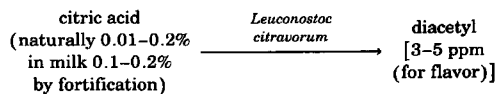
diable sauce A sauce made from meat stock and tomato flavored with shallots, pepper, cayenne pepper, and wine

diateate (sodium and calcium)



A compound that inhibits mold

diacetyl ($CH_3CO \cdot COCH_3$) Used as a flavoring agent in butter, cultured dairy products, and other dairy products; has a buttery or nut-meat-like flavor; can also be produced by bacteria:



Used as a flavoring agent in food; sp. gr. 0.978-0.985
Storage: full, tight, light-resistant, glass container

diacetyl tartaric acid ester A food emulsifier used in blends of vegetable and animal fat; diacetyl tartaric acid esters of monoglycerides and diglycerides are also used as food emulsifiers
Storage: well-closed container

diakon (dikon) See **daikon**

diakmege A salami made from beef or pork and high in connective tissue

dialysis The separation technique by which smaller molecules are passed through a semi-permeable membrane; separation of molecules by difference in the rate of diffusion through a membrane; e.g., removal of salts from sugar or protein solutions

α,ε-diaminocaproic acid See **lysine**

diammonium phosphate $(NH_4)_2HPO_4$
See Part 2: Fertilizer

diamond round A cut of beef
See Part 2: Beef Rounds

diaphragm A sheet of muscle and connective tissue that separates the thoracic from the abdominal section of the body and is used in respiration
See Part 2: Beef Rib Nomenclature

diaphysis The shaft of a long bone

Diaporthe A genus of sac fungi responsible for rot or blight in potatoes and beans
See Part 2: Mold, Food

diarrhea An intestinal disorder causing loose and watery stools
See Part 2: Infectious Diseases, Food-Borne

diastase An enzyme that hydrolyzes starch to malt sugar (maltose) and is important in ripening fruits and vegetables
See Part 2: Honey Composition

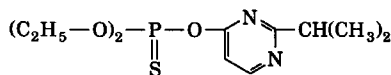
diastole Muscle expansion

diatomaceous earth (diatomite; kieselguhr) A siliceous earth of low specific gravity used as a clarifying and refining agent

diatomaceous silica Used as an aid to filtration in food processing
Storage: well-closed container

248 diazinon

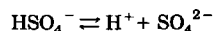
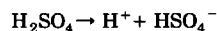
diazinon A poisonous insecticide of the cholinesterase-inhibiting type



See Part 2: Insect Control

diazo Containing two nitrogen atoms combined with a hydrocarbon group and another atom or group

dibasic acid An acid with two replaceable hydrogens, e.g.,

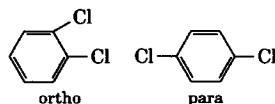


dicalcium phosphate ($CaHPO_4 \cdot 2H_2O$) A neutral fertilizer material; 0-40-0; also a good source of calcium and phosphorus; low in fluorine (toxic)

dicamba See Part 2: Corn Herbicides

dice To cut into small cubes or small pieces, as potatoes, carrots, etc.

dichlorobenzene A chlorinated hydrocarbon insecticide, used especially for moth control



dichlorodifluoromethane (CCl_2F_2) A chlorofluorocarbon refrigerant; formerly used as an aerosol propellant; a nonflammable gas
See Part 2: Refrigerants

dichlorodimethyl hydantoin See Part 2: Chlorine Availability; Chlorine Compounds

dichloroethylene ($ClCHCHCl$) An unsaturated, flammable liquid used as a solvent
See Part 2: Refrigerants

dichloroisocyanuric acid ($OCNCICONCICONH$) A sanitizer used in dishwashing compounds, bleaches, etc.; has 70% available chlorine
See Part 2: Chlorine Availability; Sanitizers

dichloromethane (methylene chloride) (CH_2Cl_2) Used as solvent, fumigant, and refrigerant
See Part 2: Refrigerants

dichloromonofluoromethane ($CHCl_2F$) A nonflammable gas used as a refrigerant
See Part 2: Refrigerants

dichlorotetrafluoroethane ($CCl_2F_2CClF_2$) A nonflammable gas used as a refrigerant
See Part 2: Refrigerants

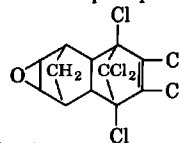
dichlorvos A drug that promotes growth and improves litter production, and is used as a wormer; also used as a slow-release insecticide used with food-stuffs

diclinous Having stamens and pistils produced on separate flowers on the same plant, e.g., cucumbers

dicoumarol (dicumarol) ($C_{19}H_{12}O_6$) A substance found in spoiled sweet clover that increases the clotting time of blood; an anticoagulant

dicysteine See cystine

dieldrin A poisonous, chlorinated hydrocarbon insecticide; its use on food crops is prohibited.



dielectric constant

Dielectric constant (of a substance)

$$= \frac{\left[\begin{array}{l} \text{Electrical capacity of a condenser when} \\ \text{the substance is between the plates} \end{array} \right]}{\left[\begin{array}{l} \text{Electrical capacity of a condenser when} \\ \text{there is a vacuum between the plates} \end{array} \right]}$$

The dielectric constant measures the distance between charges in a molecule and is decreased with increasing temperature. See also **nonpolar**; **polar**

dielectric heating Heating by establishing a high-frequency alternating electric field within a material (electrical nonconductor)

die-off See foot rot

diepoise, à la A method of cooking saltwater fish

diet 1) The food (including water) consumed. 2) The total or normal amount of solid and liquid foods taken in by an individual or population group; food intake. 3) A special schedule for consuming solid and liquid foods to meet specific nutritional requirements (often for but not limited to weight loss); may include or exclude certain types of foods. 4) A restricted food intake to reduce fat or counteract a functional disorder. 5) Food regularly consumed or a nutritional regime

See Part 2: Sodium-Restricted Diet

dietary Relating to food consumption or to diet

dietary protein The protein from animal or plant products consumed in the diet

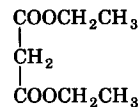
diet, balanced A diet in which food is consumed in the proper amounts and relationships for good health

diet, bland A diet from which irritating foods have been removed

dietetic Pertaining to or related to the dietary characteristics of a food

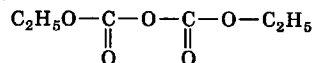
dietetics The science of nutrition involving feeding humans; Pertaining to or related to the dietary characteristics of a food

diethyl malonate



Used as a fruitlike flavoring agent; sp. gr. 1.052–1.057
Storage: full, tight, glass container in a cool, dark place

diethyl pyrocarbonate (DEPC)



A chemical used to retard mold growth in food; it hydrolyzes in aqueous solutions to ethanol and CO_2 .

diethyl sebacate



Used as a flavoring agent in food

Storage: light-resistant, glass container in a cool place

diethylstilbestrol (DES) See stilbestrol
diethyl succinate



Used as a flavoring agent in food

Storage: tight container

dietitian An individual who specializes in nutrition and institutional management

dietkaas A low-fat, low-salt type of gouda cheese

diet recall Recalling in an interview the food consumed by an individual or a household, generally over a 24-h period

difference test An organoleptic test to determine differences in taste perception See also organoleptic

See Part 2: Taste Panel, Difference Tests

differential media Media designed for separation or isolation or differentiation of related organisms

See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant; Microorganism Reactions on Differential Tube Media

differential thermal analysis A test that yields information on the crystal properties of fats

differentiation disk See Part 2: Microorganism, Media

digest To decompose (physically or chemically) material by exposure to heat and water or chemicals or enzymes

digester A pressure cooker

digester tankage See meat meal tankage

digestibility A measure of the percentage of food absorbed into the bloodstream

digestible energy (DE) The food energy that disappears (does not appear in feces) in the digestive tract

digestible protein The proportion of nitrogen or protein absorbed from food; protein that disappears (does not appear in feces) from the digestive tract

$$\text{digestible protein} = (\text{protein present in food}) - (\text{protein in feces})$$

digestion The breakdown of food into suitable products (chyme) for absorption and assimilation into the body

digestion coefficient The amount of nutrient that is absorbed for use

digestive 1) Describes a substance that aids digestion. 2) A general descriptive term for liqueurs or cordials consumed after a meal and thought to aid digestion

digestive tract The canal (from mouth to anus) in which digestion occurs

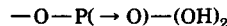
digester A vessel used for the process of anaerobic decomposition of organic material to methane and carbon dioxide

diglyceride Glycerol esterified with two molecules of an acid; has good emulsifying properties; used as an antistaling agent in yeast-raised baked goods and as an opacifier in cosmetics See also fatty acid

dihydric alcohol An alcohol whose molecule contains two hydroxyl groups; collectively, these are

called glycols; an example is ethylene glycol ($\text{CH}_2\text{OHCH}_2\text{OH}$).

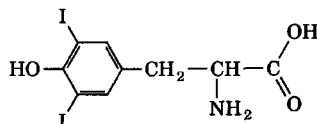
dihydrogenphosphate group



dihydroxystearic acid [$\text{C}_{17}\text{H}_{33}(\text{OH})_2\text{COOH}$] A hard fatty acid

See Part 2: Fatty Acids, Fats and Oils; Fatty Acids and Their Properties

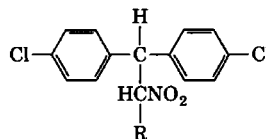
diiodotyrosine An iodine-containing amino acid



dikon See daikon

dikoya A Sri Lankan black tea

dilan A chlorinated organic insecticide



R = C_2H_5 (3 parts)

R = CH_3 (1 part)

dilation Expansion; enlargement

dilatometry A method of determining the solid-liquid ratio in a fat based on the specific volume of the liquid and solid phases

dilauryl thiodipropionate



An antioxidant used in fats, oils, and packaging materials

Storage: well-closed container

See Part 2: Antioxidant Structure

diliya dosa An oat dosa

dill (dillweed; *Anethum graveolens* L.) A small (3 ft), hardy, annual shrub with threadlike leaves (which are parsley-flavored), yellow blooms, and small oval-shaped tan seeds with a pungent, strong flavor (similar to caraway). The leaves and stems are used as an herb in seasoning; the seeds and leaves are used in pickling cucumbers and in making pastries, soups, and sauces. The seed is ridged (brown with yellow ridges) and flattened, sold whole or ground, and used to flavor cabbage, cauliflower, and turnips; sow 5 lb seed/acre; 70 days to maturity. The leaves are used fresh, dried, or freeze-dried (1–3% moisture, with a fresh-weight replacement of 1 : 8); (young) leaves are used in salads, soups, and sauces.

1 tbsp fresh dill = $\frac{1}{2}$ tsp dried dill

Terms:

Dewiskered—seed with the hairlike stem removed

Weed—leaves

250 dill (dillweed; *Anethum graveolens* L.)

Types:

European or American (*A. graveolens*)

Indian (*A. sowa*)

Composition	Dillweed (dried)	Seed
Moisture (%)	7-8	7-8 (9 max.)
Protein (%)	19-20	14-16
Fat (%)	4-5	14-15
Volatile oil (%)		2 (min.)
Carbohydrate (%)	55-56	55-56
Fiber (%)	11-12	21-22
Ash (%)	12-13	6-7 (10 max.)
HCl-insoluble ash (%)		3 (max.)

Storage (seed): cool, dark, dry place

See Part 2: Essential Oils; Flavoring Agents, Natural

dill butter Soften $\frac{1}{2}$ stick unsalted sweet butter and add 1 tbsp finely minced fresh dill or $\frac{1}{2}$ tsp dried dill; cream together, adding a few drops of lemon juice.

dillesk (dillisk) See **dulse**

dill oil A light to medium yellow oil obtained by steam distillation of the leaves, stalks, and seed of the dill plant; carvone content min. 35% by volume; optical rotation +84 to 95°; refractive index 1.480-1.485 at 20°C; sp. gr. 0.884-0.900 g/ml

dill pickle A cucumber that has been pickled with salt and dill and allowed to ferment

dillweed The foliage of the dill plant

1 tsp dillweed, dried = 1 tbsp fresh dillweed, minced

Composition (dried): moisture 7.3%; protein 20.0%; fat 4.4%; carbohydrate 55.8%; fiber 11.9%; ash 12.6%

dil peyniri A provola-type cheese made from sheep's or cow's milk

diluent A substance that is mixed with an active substance and reduce the concentration of the active substance See **dilutant**

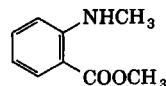
dilutant (diluent) A substance added to reduce the concentration of an active ingredient See **diluent**

dilute To make thinner or more fluid by adding more liquid, especially water

dilute solution A solution containing relatively small amounts of solute

diluting (thinning) Adding water or other liquid to reduce the strength of a solution

dimethyl anthranilate



Dill pickle types	Made from	Curing time	Cure contains	Flavor	Storage
Genuine	Fresh cucumbers	4 weeks	Dill flowers and leaves, spices, vinegar, light salt brine	Excellent, dill	Poor, 6 months (max.)
Kosher	Other dill pickles		Garlic; pepper also added	Garlic, pepper	
Overnight	Fresh cucumbers	2 days	Dill flowers and leaves, spices, vinegar, light salt brine	Fresh cucumber, mild dill	
Pasteurized (Polish style)	Fresh cucumber (whole or sliced)		Canned in a dill solution	Fresh cucumber, mild dill	
Processed	Desalted pickles that were cured 4-6 months in brine	1 week	Brine, acid, dill, spices	Good	Good
Sweet	Genuine or processed dill (cut lengthwise or crosswise)		Slightly sweetened		

Composition: moisture 93%; protein 0.8%; fat 0.2%; carbohydrate 2.2%; ash 4%; pH 3.2-3.5; 928 mg Na/pickle (65 g)

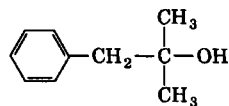
dillseed oil A volatile oil obtained by steam distillation of the seed of *Anethum graveolens* or *A. sowa*; sp. gr. 0.891-0.916; used as a flavoring agent in food Storage: full, tight, glass container in a cool, dark place

dill vinegar A flavored vinegar made by bruising dillseed and steeping them in vinegar for several weeks: Rinse dill and pat dry; fill jar lightly with dill; heat (but do not boil) good cider or wine vinegar and pour over dill; cover and store at room temperature for 2 or 3 weeks; strain through cheesecloth and bottle.

Used as a flavoring agent in food; sp. gr. 1.125-1.133 Storage: full, tight, glass container in a cool place

dimethyl benzantracene A carcinogenic agent thought to be the initiator of breast tumors in rats

dimethyl benzyl carbinol



Used as a floral-like flavoring agent in food Storage: full, tight, glass container in a cool, dark place

252 diples

diples A fried, doughnutlike pastry dipped in honey and raisins

diplo- A prefix meaning double

diplococci Pairs of cocci cells

diploid Having two sets of chromosomes

diplo-mat sauce A fish sauce with lobster butter and brandy

dipotassium phosphate (K_2HPO_4) Used as a buffering agent, sequestrant (in food), and food emulsifier and is used in some cheeses

diquat (diquat bromide) 1,1-ethylene-2,2'-dipyridylum dibromide; an herbicide that destroys the normal photosynthetic process and causes desiccation of the green parts of a plant

direct purchases Purchases that can be identified and charged to a specific job

directs Stock purchased directly by packers

dis- A prefix meaning apart or away from

disaccharide (diose; disaccharid) A sugar constructed from two monosaccharides by the removal of water, e.g., sucrose; lactose; maltose

disaster payment A payment made to a farmer participating in certain government programs when the farmer is prevented from planting or when the crop yield is abnormally low

discharge leg The portion of a hydrostatic retort that follows the pressure section

discoloration The presence or formation of undesirable color

discrimination 1) The perception of a difference between two objects. 2) A differential response (differs either quantitatively or qualitatively)

disease A malfunctioning of an organism, usually accompanied by fever and caused by bacteria or viruses *See* Part 2: Diseases, Food-Borne; Fruit and Vegetables, Diseases

disgorge To remove unwanted portion of a food

disgorging Removing unwanted sediment from a champagne bottle

dishcloth gourd *See* loofah gourd

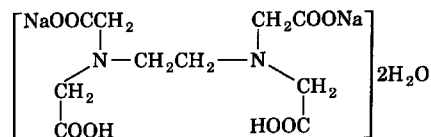
disinfect To free from infection, especially with reference to disease-causing and harmful microorganisms; the term is often used for an action that kills the growing forms but not the resistant spore forms of bacteria

disinfectant An agent that kills all vegetative microorganisms but not necessarily resistant spores; an agent destroys the infectious agents of disease and putrefaction, e.g., a bactericide, germicide, or viricide; a substance used on inanimate objects (e.g., food processing equipment) to kill or inhibit bacteria *See also* **antiseptic**

See Part 2: Microbiological Media

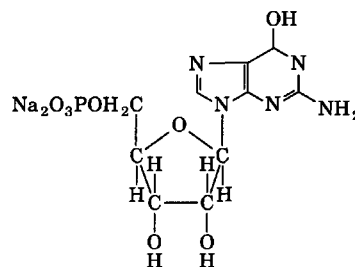
disinfestation The inactivation (as by irradiation) of food-borne insects or parasites

disodium ethylenediaminetetraacetate



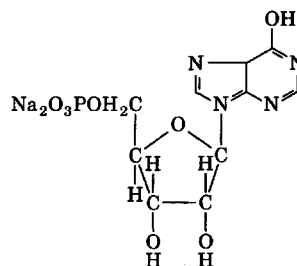
A food preservative, stabilizer or sequestrant
Storage: well-closed container

disodium guanylate



Used as a flavor enhancer in food
Storage: well-closed container

disodium inosinate



Used as a flavor enhancer in food
Storage: well-closed container

disodium phosphate (Na_2HPO_4) A food emulsifier, used in some cheeses
See Part 2: Phosphate

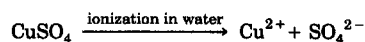
dispersed phase (internal phase) The finely divided particles of a colloidal system that remain in continued suspension *See also* **continuous phase**

dispersion medium *See* **continuous phase**

dissection Precise and systematic separation or cutting apart of a living or recently living organism, as practiced by biologists and surgeons

dissimilation The intracellular breakdown of food materials

dissociation (ionization) The separation of an electrolyte into positive and negative ions when in aqueous solution, e.g., sodium chloride, sulfuric acid



dissociation constant (k_1) A value resulting from the reaction $\text{HAc} \rightleftharpoons \text{H}^+ + \text{Ac}^-$

$$k_1 = \frac{(\text{H}^+)(\text{Ac}^-)}{(\text{HAc})} \quad (\text{in moles per liter})$$

k_1 values (mol/l):

Acetic acid 1.8×10^{-5}

Carbonic acid

First hydrogen 1×10^{-7}

and minerals have been removed, which gives it a flat taste.

distiller's corn grain See Part 2: Cereal By-Products, Composition

distiller's corn soluble See Part 2: Cereal By-Products, Composition

distiller's grain Grain from which alcohol or alcoholic beverages have been removed after fermentation; 19 lb/bu; 0.6 lb/qt; it is deficient in lysine and tryptophane

Distiller's grains	Composition					
	Dry matter (%)	Protein (%)	Fat (%)	TDN (%)	Fiber (%)	Ash (%)
Corn						
Dehydrated	94	28	9		11	2.3
With solubles, dehydrated	92	27	9.5		9	4.5
Solubles, dehydrated	93	27.5	9		4.5	7.2
Distiller's grain						
Dry		28-30		85	13	
Wet	30	9-13				

Second hydrogen 5×10^{-11}

Chloroacetic acid 1.5×10^{-3}

Dichloroacetic acid 5×10^{-2}

Formic acid 2.1×10^{-4}

Water 1×10^{-16}

dissolve To separate a crystalline solid into its component molecules or ions (dissociation) by immersion in water or other solvent; in cleaning, a reaction that produces water-soluble products from solids

dissolved solids (DS) In true solutions, this term includes any material that is dissolved; however, although suspended solids (which consist of finely divided material or colloidal solids) may also be reported as "dissolved solids" or "total dissolved solids" (TDS), such material should be referred to as suspended solids.

distal Farther away or remote from the point of attachment, as of a bone or muscle

distillate The condensed vapor of distillation

distillation An operation utilized for separating the components of a solution or of a mixture of liquids by heating the liquid to its boiling point and condensing the resulting vapor; thus, e.g., salt can be removed from a saline solution and mixtures composed of liquids of different boiling points can be separated (e.g., fractional distillation of petroleum). See also **destructive distillation**

distilled gin See **gin**

distilled vinegar (spirit vinegar; white vinegar)

A vinegar made by fermentation of dilute distilled alcohol (min. 4% acetic acid); a vinegar made from diluted purified ethanol or fusel oils with crude spirit; also distilled from grain beer. It is colorless to very pale yellow and is used for pickling.

distilled water Water that has been purified by condensation from the vapor phase, e.g., rain; all gasses

distiller's soluble The dried liquor that is left from whiskey after distilling the spirit

100 lb corn (14% moisture)

= 22 lb distiller's grain, dry

= 7 lb distiller's solubles, dry

distribution system A one-way system to carry goods from the point of manufacture to the point of consumption

ditali lisci See **macaroni**

ditalini Small pieces of macaroni

ditali rigati See **macaroni**

dittany (*Cunila origanoides*) An herb of the mint family

diurent A substance that will increase the discharge of urine e.g., beer, coffee, tea, or water

diuretic A substance that increases or stimulates the flow or volume of urine, e.g., beer, coffee, tea, or water

diva goa A coconut liqueur

diversion payment A payment for diverting land from certain crops into conservation uses

diverted acres Those areas that were taken out of production and converted to some conservation use

diverticulum A saclike appendage found on a hollow organ

divinity A white, crumbly, fudgelike confectionery made by cooking sugar and pouring it over beaten egg white

divya A wine made from the bark of the kadamba tree (*Anthocephalus cadamba*)

Dixired season The season for peach cultivars that ripen very early (5 weeks before the Elberta variety)

djamur padi Straw mushroom

DNA Deoxyribose nucleic acid *See* **deoxyribonucleic acid**

DNA probe A term used for small pieces of DNA that recognize specific genes, are usually fairly chemically stable, and are used to identify the genetic information of any organism

DNase *See* Part 2: Microorganism, Media

do A sorghum beer

Do *See* mean lethal dose

do'a A condiment containing salt, pepper mixed with marjoram, mint, or cumin, and either coriander, cinnamon, or sesame

dobosh torte A seven-layer Viennese cake; a fine-textured butter cake with chocolate icing

dobrogea A provolone-type cheese made from sheep's milk

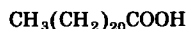
dock 1) The part of the tail left on an animal after clipping or cutting; sometimes the region near the tail or the base of the tail. 2) A plant family (containing sorrel, rhubarb, and bloodwort), some of which are used as vegetables and some as flavoring or herbs, e.g., *Rumex alpinus*, *R. crispus*, *R. patientia*, and *R. sanguineus*; plants of this family contain an alkaloid (rumicin) and chrysophanic acid. 3) Sorrel, a perennial vegetable whose leaves are used as salad or cooked greens

Varieties: Belleville sorrel; French sorrel; spinach dock

dockage 1) The weight deducted from stags and pregnant sows. 2) Foreign matter in wheat

docking Removing the tail of an animal; methods include an elastrator, knife, or hot iron; best age for sheep is 1–2 weeks old; cut is made 1 in. from body.

docosanoic acid (behenic acid)



A saturated fatty acid found in peanut oil
See Part 2: Saturated Fatty Acids

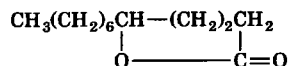
docosapentaenoic acid *See* Part 2: Unsaturated Fatty Acids

docosenoic acid (erucic acid) A 22-carbon unsaturated fatty acid found in rapeseed oil
See Part 2: Unsaturated Fatty Acids

docosohexaenoic acid A fatty acid, found in fish, that has been reported to reduce platelet aggregation and to lower serum triglyceride levels

Doddies An early Scotch breed of black polled cattle

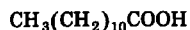
dodecalactone



Used as a butter- and coconut-like fruity flavoring agent

Storage: tight container

dodecanoic acid (lauric acid; lauric oil)



A saturated fatty acid found in milk fat and in coconut oil, laurel oil, and other vegetable fats; used as a defoaming agent or as a raw material for making other food additives

Storage: well-closed container

See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids and Their Properties; Fatty Acids; Fatty Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Oils, Seed and Fruit; Saturated Fatty Acids

dodecenoic acid A 12-carbon unsaturated fatty acid
See Part 2: Milk, Fatty Acids, Seasonal; Unsaturated Fatty Acids

do' di A sorghum beer

dodol A jellylike sweetmeat made from rice flour, coconut milk, and manisan

doe A female deer or goat

doenjang *See* denjang

dog (grayfish; *Squalus acanthias*) A 20-lb shark used for food, oil, and fertilizer; any of various small sharks

See Part 2: Salmon and Trout

dogey A small, common-bred cattle

dogfish (rock salmon; *Squalus* spp.; *Mustelus* spp.) Refers both to several species of small sharks (*Squalus* spp. and *Mustelus* spp.) whose flesh is called folkestone beef or grayfish and to other fish such as the dog salmon (*Oncorhynchus keta*), burbot (*Lota lota maculosa*), and mudfish; some of the more popular species are as follows:

American smooth dogfish (*M. canis*)

Atlantic and Pacific (*Sq. acanthias*, *Sq. suckleyi*)

Black (*Centroscyllium fabricii*)

Black-mouthed (*Galeus melastomus*)

Catfish (*Galeichthys marinus*)

Chain (*Scyliorhinus retifer*)

Cuban (*Sq. cubensis*)

European smooth dogfish (*M. mustelus*)

Freshwater—bowfin

Greater spotted (*Sc. stellaris*)

Japanese (*Sq. mitsukurii*)

Large spotted (*Sc. stellaris*)

Lesser spotted (*Sc. canicula*)

Northern (*Sq. blainvillei*)

Picked, spiky, spiny, or spring dogfish (*Sq. acanthias*)

Rock salmon

Sharklike fish (*Acanthias vulgaris*)

Smooth dogfish (*Cynias canis*)

Smooth hound (*Emissola antarctica*, *Mustelus* spp.)

South African (*Sc. capensis*)

Spur dog

See demersal fish; dog; grayfish

dog goat A black goat from southern China that is raised for meat and milk

dog rose (*Rosa canina*; *R. rugosa*) A plant whose urn-shaped fruit (rose hip) is used to make rose-hip syrup, jellies, preserves, and sauces and is high in vitamin C and low in pectin

dog's mercury *See* mercury

dohlou A sorghum beer

- dok** Pounded rice cake
- doka** A wine made from raffia palm sap
- dokon** An acidic, whole-meal, maize dumpling
- dok-sa** A snake wine
- Dolceacqua** An area of northwestern Italy that produces an elegant, dry red wine
- dolcelatte** A blue cheese made from cow's milk
- Dolcetto** 1) A grape variety. 2) An Italian dry red wine
- dolce verde** A blue cheese made from cow's milk
- dolce-verdi cheese** A hard, rich, Italian cheese
- dolci** A sweet dish
- dolé** A red wine
- dollarfish** (*Poronotus triacanthus*) A small (8–10 in.), oval, firm-fleshed, saltwater fish, of which butterfish is a variety
- dolly** A small, wheeled truck used in moving heavy cases *See* runt
- dolly varden** (*Salvelinus malma*) A food fish
- dolma** Something that is stuffed; stuffed vegetables
- dolo** A sorghum beer
- dolomite** A type of limestone containing magnesium carbonate in which 40% or more of the neutralizing power is magnesium carbonate *See also* **dolomitic limestone; limestone**
See Part 2: Fertilizer Materials; Liming Materials
- dolomitic hydrate** *See* Part 2: Liming Materials
- dolomitic limestone (ground)** A liming material composed of 52% CaCO_3 and 42% MgCO_3 (must be 10–39.9% neutralizing value for dolomitic); each pound has the neutralizing equivalent of 0.95–1.08 lb CaCO_3 ; used on soil where magnesium is required as well as lime *See also* **limestone and agricultural limestone**
- dolphin** The name given both to a marine mammal and to a fish (*Coryphaena hippurus*) that is used both as a game and food fish
- dolphinfish** *See* mahi-mahi
- doluca** A white or red wine
- DOM (deo optimo maximo)** Benedictine produced by monks of Fécamp, Normandy
- domashny** A curd cottage cheese made from skimmed cow's milk with cream added
- domatorizo** Tomato pilaf
- domestic** 1) Describes an animal that is tame or not wild. 2) Describes something sold in its country of origin
- domestic sausage** Sausages that originated in or are now made in large quantities in the United States
- domiati** A soft, white, salty (brined) Egyptian cheese made from cow's or buffalo's milk (skimmed or whole) and it may be aged for darker color and stronger flavor.
Composition: moisture 55%; protein 20%; fat 25%; salt 5%
- dominance** In genetics, the ability of one gene to express itself over another gene; the degree of expression varies.
- Dominique** An American class of chicken with a rose comb that lays a brown-shelled egg; color, bluish slate with light and dark bars; undercolor is slate.
- donburi** Food cooked in rice
- dongchimi** An acidic, carbonated, Oriental condiment made from radish and juice
- dorjon aux amandes** A liqueur flavored with almond; high alcohol content
- donnaz** An Italian red wine produced from Nebbiolo grapes
- donum** A measure of area
1 donum = 2500 square meters (m^2)
- dooar** An Indian black tea
- doodle bug** *See* ant lion
- doogh (dugh)** Sour diluted milk
- dope** A substance used in a joint or seam to improve the tightness
- doppelbock** An extra-strong alcoholic beer
- doppelender (double muscle)** A mutation in beef cattle producing abnormally heavy muscle development; breeding of these animals is often difficult and therefore this is usually considered undesirable.
- doppelkorn** A schnapps-type spirit made from maize
- Dorking** An English class of chickens with white skin and five toes that lays a white-shelled egg
Varieties: white; silver-grey; colored
- Dorman** A variety of soybean
- dormancy** The period during which plants cease visible growth due to unfavorable environmental conditions
- dormant** The stage of maturity where plants have ceased to grow and have cured on the stem; inactive
- dornecy** A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese made from goat's or goat's and cow's milk
- doro** A seven-day beer
- dorogobuchsky** A soft to semisoft, strong-flavored cheese, made from cow's milk, that is shaped into small cubes and ripened by surface bacteria
- doro remuchero** A wine
- dorsal** Located on the back, as a dorsal fin
- Dorset** A medium-wool, mutton-type breed of sheep originating in southern England; a white-faced breed of sheep with both sexes having horns; this breed can lamb at almost any season of the year.
See Part 2: Sheep Breeds
- dorset blue** A low-fat blue cheese made from cow's milk
- dorset cheese** A blue cheese
- dortmunder** A lighter-colored lager beverage
- dosa** A light, shallow-fried, thin, cereal (usually rice and legume) pancake
- dosage** The mixture of sugar and wine that is added to champagne during the final filling and corking

dose (D) The amount of ionizing radiation absorbed by a material

dosed Sweetening of wine when it is disgorged

dose-equivalent index (H) The index of biological effectiveness of different kinds of ionizing radiation relative to 200-keV X-rays; if the dose is in grays, the dose-equivalent index is in units of dose-equivalent. This replaces the previously used measure, the relative biological effectiveness (RBE)

dosimeter A device for measuring the radiation dose received during irradiation

dosimetry The process of measuring a dose of radiation

dot To place small quantities of butter or seasoning over the surface of a food to be cooked

dotriacontanoic A saturated fatty acid
See Part 2: Saturated Fatty Acids

dotter cheese A skimmed-milk cheese that contains egg yolks

double bond A type of linkage that occurs in unsaturated compounds in which not all the available valences of an atom are satisfied; such linkages occur most frequently between carbon atoms. Unsaturated compounds tend to be more reactive than saturated compounds, as one valence is free to attach itself to another atom.

See Part 2: Oil, Triglyceride Mole Percent Composition; Rapeseed Oil, Triglyceride Mole Percent Composition

double bone sirloin (flat bone) A sirloin steak found in the loin end wholesale cut; it is located between the round bone sirloin and the pin bone sirloin; in retail cuts, one of the bones is usually removed.

double crème A soft-ripened, delicate-flavored cheese with a white or golden powdery crust and min. 60% fat content; may run at room temperature

double-crop To plant a second crop after the major crop has been harvested from the same land

double-crust pie A fruit pie with top and bottom pastry crusts

double Gloucester A hard to semihard, rich, smooth, orange to gold (colored with annato), cheddar-type English cheese, with pungent to mellow flavor, that is larger and sharper than single Gloucester; used for dessert, cooking, and salads

double muscle See **doppelender**

double-muscling The presence of abnormally large muscles (muscular hypertrophy) See **doppelender**

double roti A wheat bread

double-sampling A sampling procedure by which a decision to accept or reject a lot may be reached after one sample and will always be reached after two samples

double seam (chime) The folds of metal that are used to attach the end of a can to the body; an interlocking can closure seam formed by compressing the curl of the end and the flange of the body

double seamer See **closing machine**

Double Standard Polled Hereford Hornless Hereford cattle that originated from registered Hereford stock

Double Standard Polled Shorthorn Polled Shorthorn cattle that originated from registered Shorthorn stock

double superphosphate $[\text{Ca}(\text{H}_2\text{PO}_4)_2]$ A neutral fertilizer material; 0-46-0; it is superphosphate from which the gypsum has been removed.

doufu-ru Sufu soybean curd fermented in wine

dough A moist or soft, pliable mass (a mixture of flour or meal, liquid, and other ingredients, often including yeast) that can be handled, rolled, or kneaded prior to baking (bread or pastries) See **batter**

dough cake A tea bread with currants, mixed citrus peel, and sultanas

dough conditioner A substance that is added to dough to accelerate the ageing process or to improve the baking qualities

doughnut A deep-fried (oil temperature 350°F) circular cake (usually with a hole in the center) made of a wheat-flour (white) dough (with water, sugar, shortening, and some form of leavening) and often coated with sugar, jam, or syrup

Terms:

Jelly doughnut—contains jam in the center

Raised doughnut—contains yeast

Types	Frying temp. (°F)	Sugar (%)	Shortening (%)	Frying fat (%)
Cake-type (chemical leavening)	375–390	15	2	18
Yeast-raised	375–390	3	5	15–25

4 tsp sugar per 3-in. plain doughnut; one plain cake-type doughnut ($3\frac{1}{4}$ -in. diam., $1\frac{1}{2}$ oz) contains 165 calories; one yeast-leavened, raised doughnut ($3\frac{3}{4}$ -in. diam., $1\frac{1}{2}$ oz) contains 175 calories; one plain Danish pastry ($4\frac{1}{2}$ -in. diam.) contains 275 calories; 160 mg Na/32 g (cake-type), 99 mg Na/42 g (yeast-leavened) See Part 2: Calories, Daily Recommendations; Frozen Food Storage; Frying Time; Grain Products, Composition

dough stage The stage of maturity at which seeds are immature and soft

doughy Describes a soft, heavy, pasty texture (similar to an unbaked mixture of flour and water)

doux Sweet

doux de montagne A creamy, semisoft, ivory-colored cheese with a brown wax covering, small eyes, and a sweet, tangy flavor

dove (family Columbidae) A small, edible, pigeon-like bird

Dover slime sole (*Microstomus pacificus*) The same as Dover sole in the Pacific northeast

Dover sole A finfish with a very light, delicate-flavored white meat See **sole**

dowitcher (*Limnodromus griseus*) A food bird of the seashore

Down breeds Breeds of sheep such as Hampshire, Oxford, Shropshire, and Southdown

down palm See palm

downy brome (*Bromus tectorum* L.) An annual weed

downy mildew 1) A fungus (*Bremia lactucae*) that causes irregular, angled spots on the underside of lettuce leaves; a white, fluffy, spore mass later covers the area. 2) A fungal disease of American bunch grapes; the fungus thrives in cool, moist weather.

Control: several applications of a fungicide
See Part 2: Sorghum Diseases

DP See degree of polymerization

DPN See diphosphopyridine nucleotide

drabant A square-shaped, Swiss cheese made from cow's milk

draceno A wine from southern Sicily

drachm (British) See dram (troy) for the measure of weight; also a measure of volume:

1 drachm = 60 minims
= 3.55 milliliters (ml)

dragée A sugar-coated candy or sweetmeat

dragées de Verdun Almonds coated with sugar

dragonfish (weever; *Trachinus draco*) An edible saltwater fish

dragon's eye See longan

drain To remove liquid or fat, e.g., from food

drained weight A standard measure of the amount of a canned product in a container, obtained in the following manner:

Products other than greens: Empty sample can onto dry sieve of the proper diameter (8 in. if can is smaller than No. 3 and 12 in. if larger than No. 3). The sieve should be U.S. standard no. 8, containing 8 openings per inch [0.0937-in. \pm 3% (2.3-mm) square openings]. Distribute the product over the sieve. Incline the sieve 17–20°. Drain for 2 min and weigh.

For greens: Use the same procedure except that product should not be spread over the sieve, the container is merely lifted away from the product.

dram (dr) 1) Apothecary's (apoth.) or troy weight—a measure of weight used for gold, silver, and jewels

1 dr = 3.888×10^3 milligrams (mg)
= 60 grains (gr)
= 3.8879351 grams (g)
= 3 scruples (apoth.)
= 2.5 pennyweights (dwt)
= 2.194286 drams (dr; avdp.)
= 0.1371429 ounce (oz; avdp.)
= 0.1250 ounce (oz; troy or apoth.)
= 1.0416667×10^{-2} pound (lb; troy or apoth.)
= 3.888×10^{-3} kilogram (kg)
= 8.571429×10^{-3} pound (lb; avdp.)
= 4.284×10^{-6} ton (short)
= 3.826×10^{-6} ton (long)

2) Avoirdupois (avdp.)—a measure of weight

1 dr = 1.77184 $\times 10^3$ milligrams (mg)
= 27.34375 grains (gr)

= 1.7718454 grams (g)
= 1.3671875 scruples (apoth.)
= 1.139323 pennyweight (dwt)
= 0.4557292 dram (dr; apoth. or troy)
= 0.0625 ounce (oz; avdp.)
= 0.056966146 ounce (oz; troy or apoth.)
= 4.7471788 $\times 10^{-3}$ pound (lb; troy or apoth.)
= 0.00390625 pound (lb; avdp.)
= 1.772×10^{-3} kilogram (kg)
= 1.953×10^{-6} ton (short)
= 1.744×10^{-6} ton (long)

16 dr = 1 ounce (oz; avdp.)

3) U.S. fluid or Apothecary's measure—a measure of liquid volume

1 dr = 62.451 minims (Brit.)
= 60 minims (U.S.)
= 3.6967 cubic centimeters (cm³)
= 3.6966 milliliters (ml)
= 0.22559 cubic inch (in.³)
= 0.13011 ounce (oz; Brit. fluid)
= 0.125 ounce (oz; fluid)
= 0.0078125 pint (pt; U.S. fluid)
= 3.6966×10^{-3} liter (l)
= 9.7656×10^{-4} gallon (gal; U.S.)
= 8.13165×10^{-4} gallon (gal; Brit.)
= 1.3054×10^{-4} cubic foot (ft³)
= 3.1×10^{-5} barrel (bbl; U.S.)

Drambuie A sweet, rich, light brown, malt liquor made from Scotch whiskey

draw 1) To remove the viscera of a fowl in preparation for cooking. 2) To melt butter. 3) To form a can by forcing a flat metal blank into a die, producing a container with a formed body and bottom

drawback A refund of customs duties paid on material imported and later exported

drawn 1) Of animal and fish carcasses, eviscerated. 2) Of butter or other fat, melted

See Part 2: Fish, Drawn; Fish Yields

drawn butter Clarified or melted butter, often with added flavoring; served with lobster or other seafood

drawn poultry Dressed poultry from which the entrails, head, and feet have been removed; 30% less than live weight; 25% less than dressed weight

dredge 1) To coat meat with flour or a mixture of flour, butter, and salt prior to baking, roasting, or frying. 2) To sprinkle food with a powder; the coating thickness should be between those meant by "coat thickly" and "dust." 3) A container with a fitting on top whose movement to various positions will allow sifting or pouring of the contents or closure of the container.

dregs See grounds; sediment

drepano A wine from southern Sicily

dress To garnish or serve food in a pleasing manner

dressed 1) Prepared for cooking (of poultry, the bird has been killed and only the feathers removed). 2) Describes food to which dressing has been added

See Part 2: Fish, Dressed; Fish Forms; Fish Yields

dressed weight See dead weight

dressing 1) A stuffing for roast fowl, pork, etc., made with bread, oysters, chestnuts, etc., and seasoned

with herbs. 2) A sauce for salads made with vegetable oils, vinegar, and various herbs and spices. 3) Removing the feathers of poultry or the skin and intestinal tract of animals or fish

See Part 2: Bacon Dressing; Calories, Daily Recommendations; Condensed-Milk Dressing; Cooked Dressing; Fats and Oils, Composition; French Dressing; French Dressing Variations; Fruit Dressing; Fruit Salad Dressing; Mayonnaise; Mayonnaise and Salad Dressing; Salad Dressing and Mayonnaise Variations; Sour-Cream Dressing; Stabilizers, Thickeners

dressing percentage The carcass weight divided by the live weight and multiplied by 100 to give the percentage of live weight that is represented by chilled carcass weight:

$$\text{dressing percentage} = \frac{\text{chilled carcass weight}}{\text{live weight}} \times 100$$

$$\text{carcass weight} = \text{live weight} \times \text{dressing percentage}$$

$$\text{live weight} = \frac{\text{carcass weight}}{\text{dressing percentage}}$$

$$\text{carcass value per hundredweight (cwt)}$$

$$= \frac{\text{price per hundredweight (live)}}{\text{dressing percentage}}$$

$$\text{live value (cwt)}$$

$$= \text{carcass value (cwt)} \times \text{dressing percentage}$$

Cattle

Prime 60–67%

Choice 58–62%

Good 52–59%

Commercial 45–56%

Utility 47–53%

Cutter and canner 38–47%

Hogs (head and leaf fat on) 74–84%

Sheep

Ewes 40–60

Fat lambs 48–52

See Part 2: Poultry, Dressing Percentage

dressing, Russian

10 oz undiluted tomato soup

$\frac{1}{2}$ cup oil

$\frac{1}{2}$ cup vinegar

$\frac{1}{2}$ cup sugar

1 finely chopped onion

1 tbsp Worcestershire sauce

1 tsp paprika

1 tsp dry mustard

$\frac{1}{2}$ tsp salt

dreux à la feuille A riccioi-type cheese wrapped in chestnut leaves

dried A food product from which most of the water has been removed. See **dried** entries that follow. See also **sun-dried food**; **dehydrated food**

See Part 2: Milk, Amino Acids; Milk and Milk Products, Vitamin Content; Milk Composition; Milk, Dry Products, Minerals, Food; Nicotinic Acid, Food; Storage, Dry; Storage Times; Vitamin A, Milk and Milk Products

dried-algae meal Used as a color additive in food

dried beef (beef hams) Beef that has been dry-cured sweet-pickle-cured with salt, sugar, and sodium nitrate and/or sodium nitrite and then smoked and allowed to dry; meat generally used is inside, outside, and knuckles of round; the cure may be as follows:

Water 79.8% by weight

Salt 14%

Sugar 6%

Sodium nitrate 0.2%

Pump to 5% of weight

Composition: 1220 mg Na/oz

See also **chipped beef**; **corned beef**

See Part 2: Meat Composition; Meat, Servings Per Pound

dried blood Dehydrated blood; blood meal

dried fish Salted, low-fat fish from which the moisture has been removed as a method of preservation, to prevent growth of bacteria (less than 25% moisture) and mold (less than 15% moisture)

dried fruit Fruit preserved by partial removal of water; most contain approximately 24% water

Methods:

Dehydration by artificial heat, controlled conditions

Evaporation by artificial heat, less controlled conditions

Sun drying

To cook: cover washed fruit with hot water and place over low flame (to retain heat without boiling) for 2 hours

Fruits that are often dried include apples, apricots, currants, dates, figs, peaches, and prunes

Sizes: small; medium; large; extra large

1 cup = 3 oz

Storage: tightly closed container; refrigerate (35°F); 50–60% relative humidity; storage life 9–12 months; if weather is warm and humid, at room temperature (not above 70°F) for up to 6 months

See Part 2: Calcium, Daily Recommendations; Calories, Daily Recommendations; Fruit, Dried, Simmering; Fruit, Servings Per Pound; Iron, Daily Recommendations; Niacin, Daily Recommendations; Storage; Storage, Dry; Storage Times

dried meat Cured, semidry, uncooked meat (may be beef, lamb, mutton, goat, or other meat); it is often smoked and dried and has a long maturation period

dried milk (powdered milk) Pasteurized whole milk from which the water has been removed or evaporated to an average moisture content of 3% (5% max.); it has a limited shelf life and is used by individuals without access to fresh milk and also in manufacturing.

Drying processes: roller; spray

1 cup = 1 qt, reconstituted

Storage: tightly sealed in a cool, dry place

See **binder**

See Part 2: Concentrated and Dried Milk Products

dried skim milk (nonfat dry milk solids; NFDMS) Made by evaporating water from skimmed cow's milk; contains not more than 1½% milk fat and not more

than 5% water; reconstitute by adding $3\frac{1}{2}$ oz to $3\frac{3}{4}$ cups of water

- 1 lb dried skim milk
- = 4 cups (dried by spray process)
- = 10.2 lb skim milk
- = $4\frac{3}{4}$ qt skim milk

See **nonfat dry milk solids**

dried vegetables Vegetables that have been preserved by partial removal or evaporation of water
Storage: tightly closed container in a cool, dry place; shelf life several months

dried whole milk Composition moisture 2.4–2.6% (5.0% max.); protein 26–27%; fat 26–27%; carbohydrate 38–39%; fiber 0%; ash 6–6.2%

- 1 lb dried whole milk
- = $4\frac{1}{2}$ cups (dried by spray process)
- = $7\frac{1}{2}$ lb whole milk
- = $3\frac{1}{2}$ qt whole milk, fresh
- 4.5 oz dried whole milk + 3.5 cups water
- = 1 qt whole milk, fresh
- 1 cup = 4.3–5.1 oz

Storage (unopened): refrigerate or keep in a cool place; use within a few weeks

Storage (opened): tightly covered in a cool, dry place; rapidly develops off flavor

Storage (mixed with water): refrigerate

drier (dryer) 1) A soap of a heavy metal, e.g., cobalt naphthenate, used in some paints, printing inks, etc., to accelerate polymerization of drying oils. 2) A piece of equipment used for drying (dehydrating) foods

See Part 2: Dryer Types

Drierite (CaSO_4) Proprietary name for a desiccant used to keep the atmosphere dry See **calcium sulfate**

drift Weight loss of cattle off feed prior to slaughter

drip Juice or liquid that is exuded from fresh, frozen, or cooked meat

drip grind Particle size for coffee made by the drip method; finer than regular grind

See Part 2: Coffee Particle Size

drip line The area of soil around a plant directly below the leaf canopy

dripping The fat and sediment (jus, essence, or extract), containing some gravy and small pieces of meat, that are obtained from roasting meat or frying bacon; it is often strained or clarified. The term usually refers to meat, but sometimes is used for other food.

See Part 2: Vitamin Retention, Meat

drip room See **green room**

drizzle To pour liquid (often butter or a marinade) in a thin stream over food

dromedary A single-humped camel that is raised (often used in desert and semidesert regions) for wool (5–7 lb/yr), milk (4.7% fat), work (can carry 500 lbs at 2.8 mi/h) and meat

droop A smooth projection, usually at the side-seam lap, of the double seam below the bottom of the seam

dropping point A photometric determination of the melting point of a fat that can be correlated with the Wiley melting point

dropsy The accumulation of water in tissues or a cavity

drove A group or herd of animals

drug A substance that is used for the diagnosis, cure, mitigation, treatment, or prevention of disease; a substance other than food intended to affect the structure or function of the body; any chemical compound or biological material used in the living body as a medicine

drug-store wrap A single thickness of paper is placed under an object; the ends of the paper that go around the sides of the object are brought together on top; they are then folded in $\frac{1}{2}$ -in. folds till the paper is down to the object; the ends are then folded into a triangle; the tip of the triangle is then folded under; next, the entire end is folded under smooth and fastened.

drum (*Aplodinotus grunniens*) A freshwater food fish

drumfish Any fish that makes a drumming sound

Black drum (*Pogonias cromis*)

Freshwater drum (*Aplodinotus grunniens*)

Red drum, Channel bass (*Sciaenops ocellatus*)

drumstick 1) The leg of a chicken or turkey; usually separated from the thigh by cuts through the knee joint (femorotibial and patellar joint) and through the hock joint (tarsal joint). 2) A pod of the horseradish tree

drupe A one-celled fruit with one or two seeds; the pericarp is divided into a thin epicarp (outer layer or peel), a fleshy sarcocarp (mesocarp), and a hard endocarp (inner layer), surrounding the seed or stone; e.g., almond, apricot, cherry, nectarine, peach, or plum
See Part 2: Fruit Classification

dry 1) Low in moisture. 2) The opposite of sweet in wine. 3) The period during which lactation is terminated by not removing milk, which permits body rebuilding and the production of a healthier offspring

dry bean See **bean, dry**

dry bulb See Part 2: Relative Humidity

dry champagne See **dry wine**

dry cheese A name used for a number of long-cured, dried, hard German cheeses

dry cure A curing procedure for which the curing ingredients are dry powders that are rubbed on the meat; many variations in curing ingredients are used (most widely used formula is 8 lb salt, 3 lb sugar, 3 oz saltpeter)

Ham—1 oz cure/lb meat; 3 rubbings; 2 days/lb in cure

Bacon—1 oz cure/lb meat; 2 rubbings; 7 days per inch in cure

This produces a saltier and firmer ham that does not require refrigeration. The weight of the finished product should be at least 18% less than the fresh, uncured weight.

dry end See **granulation**

260 dry-heat cooking

dry-heat cooking A method of cooking tender meat by surrounding it with dry air; includes broiling, panbroiling, and roasting

dry ice Compressed, solid carbon dioxide (CO₂); -110°F (-79°C); releases carbon dioxide gas upon melting

$$1 \text{ in.}^3 = 0.045 \text{ lb}$$

drying 1) Evaporating water or an organic solvent; removing water is used as a method of food preservation; some foods preserved by drying include the following: cereal grains; chocolate; coffee; crackers; milk; fats and oils (e.g., salad oils, shortening); flour; freeze-dried food; hard candy; meals; nuts; peanut butter; potatoes; potato chips; prepared cereals (e.g., corn flakes); pretzels; proteins (e.g., gelatin, purified soy protein); seeds (e.g., wheat, rice, beans); some cookies; spices; sugar. *See also* **dehydration**.

See Part 2: Moisture, Drying

2) A process for ageing wine by which the sugar is reduced and tannin is increasing

drying oil A vegetable oil that hardens to a film due to polymerization of its molecules when exposed to air; such oils were once widely used in the paint industry, but have been largely replaced by synthetic resins. Examples are linseed oil and tung oil.

drylot A relatively small area where animals are confined

drymary A plant having a toxic principle

See Part 2: Poisonous Plants

dry matter Moisture-free content

dry milk Milk from which most of the water has been removed; the instant type dissolves easily.

$$1 \text{ lb dry whole milk} = 7.6 \text{ lb milk}$$

Composition	Nonfat			
	Calcium-reduced	Instant	Regular	Whole
Moisture (%)	4.9	4.0	3.2	2.5
Protein (%)	35.5	35.1	36.2	26.3
Fat (%)	0.2	0.7	0.8	26.7
Carbohydrate (%)	51.8	52.2	52.0	38.4
Ash (%)	7.6	8.0	7.9	6.1

See also **whole dry milk**

See Part 2: Dairy Terms

dry-milled Describes grain that has been processed by tempering with a small amount (no significant free water) of water or steam to aid in separation during milling

dry or semidry sausage (summer sausage) A sausage made from cured meat that is comminuted, seasoned, and stuffed, and may or may not be smoked and air-dried

Popular types: cappicola; chorizos; farmer cervelat; frizzes; German salami; Italian salami; Lebanon bologna; pepperoni; thuringer cervelat

See **dry sausage**

dry-pack Describes sugar-free processed fruit

dry pea *See* **pea, dried**

dry period The time when a female is not secreting milk *See* **dry**

dry-processed lard Lard that has been rendered in a steam-jacketed tank under vacuum

dry rendering A process by which tissue is cooked in an open steam-jacketed vessel with water being evaporated and the fat being drained off so that the product is cooked in its own moisture by external application of heat, with stirring

dry rolling A process by which material is compressed between rollers without added steam or moisture

dry room A room that is used to dry sausage where temperature and humidity are controlled

dry rot (*Diaporthe batatatis*) A brown fungal decay that starts at the end of a sweet potato during storage; the tissue under the skin is black

dry salt cure A curing process by which only salt is rubbed on meat and fat products; 7-10 lb salt/100 lb meat

dry sausage Any of various meat products that are dried (for more than 1 month) during manufacture; these sausages are made from beef and pork and are prepared by a complicated and carefully controlled drying process; they will keep for a long time and are ready-to-eat, e.g., pepperoni.

Moisture-protein ratio: dry sausage 1.9; genoa salami 2.3

See **dry or semidry sausage**

dry skim milk *See* **dried skim milk**

dry solubles Spice extractives that are on a dry carrier

dry sterilization A term used in the spice industry to indicate gas sterilization

dry sugar cure *See* **dry cure**

dry tip *See* **endoxerosis**

dry-waxed Paper or paperboard that has had wax removed from its surface, leaving only wax that was impregnated in the sheet

dry whole milk *See* **dry milk; whole dry milk**

dry wine A wine in which all the sugar that can be perceived by taste has been fermented

Contained in 100 cc (20°C):

Less than 1 g sugar

Not less than 0.16 g ash in red dry wine

Not less than 0.13 g ash in white dry wine

Not less than 1.6 g sugar-free grape solids in red dry wine

Not less than 1.4 g sugar-free grape solids in white dry wine

dry yeast A dry (5% moisture), granular mixture of yeast and a filler mixture (e.g., starch or cornmeal); its reaction rate is slower ($\frac{1}{3}$) than that of fresh yeast.

Composition: protein 42%; carbohydrate 42%

1 tbsp active dry yeast

= 1 package active dry yeast

= 1 cake compressed yeast

Storage: will keep its strength for several months when kept cool; activation temperature 115°F

dry-zero *See* Part 2: Insulation

dsaudan Fermented egg

DSS Diocetyl sodium sulfosuccinate

DTM agar See Part 2: Microorganism, Media

dual-purpose cattle Cattle developed for the production of both milk and meat (triple-purpose cattle were developed for milk, meat, and draft)
See Part 2: Beef and Dual-Purpose Cattle

dual standard A method of difference testing: two known samples are presented, two unknown samples are presented, and the observer is asked to identify the unknowns.

See Part 2: Taste Panel, Difference Tests

du Barry A cauliflower garnish

duberki Dried, hard spheres of fermented milk or mild curds that may be stored under olive oil

Dublin bay prawn (Norway lobster) A small lobster

Dubonnet The proprietary name of a rich, French liqueur made from wine; a quinine and bitter-bark herb-flavored red, white, or clear aperitif wine

Dubos oleic agar See Part 2: Microorganism, Media

Duchess A variety of apple that is only fair for eating (due to acid flavor) but is good for pies, sauce, and jelly

duchesse potatoes Potatoes with eggs and butter placed in a pastry tube

duck (*Anas boschas*; *A. platyrhynchos*) An amphibious game bird used for food; domestic varieties are raised for food; scalding 3 min in 140°F water when preparing for cooking.

Classes:

Broiler duckling (fryer duckling)—a young duck (usually under 8 weeks of age), of either sex, that is tender-meated and has a soft bill and soft windpipe

Roaster duckling—a young duck (usually under 16 weeks of age), of either sex, that is tender-meated and has a bill that is not completely hardened and a windpipe that is easily dented

Mature duck—over 16 weeks of age

USDA grades: U.S. grade A poultry; U.S. grade B poultry; U.S. grade C poultry
Duck is all dark meat and the small amount (2%) of fat is slightly strong in flavor.

Types:

Aylesbury—large; similar to Rouennais

Long Island—imported from China

Mandarin—Chinese

Nantais—3–4 lb; allowed to bleed when slaughtered

Rouennais—5–6 lb; not bled when slaughtered

White Pekin—an old Chinese breed

Wild duck—mallard types; tougher than domesticated fowl

One ready-to-cook duck weighs approximately 4–5.5 lb.

1 5-lb duck = 4–5 servings

1 med.-sized dressed wild duck = 1–2.5 lb

1 lb duck meat, ready to cook = 2 servings

Fat and skin, composition	Domesticated		Wild, raw
	Raw	Cooked, roasted	
Moisture (%)	48.50	51.84	66.52
Protein (%)	11.49	18.99	17.42
Fat (%)	39.34	28.35	15.20
Ash (%)	0.68	0.82	1.16
Total carbohydrate (%)	0.0	0.0	0.0

Muscle pH 6.1

See Part 2: Animal Foods, Composition; Frozen Food Storage; Glutamate; Meat and Meat Products, Composition; Minerals, Food; Portion Size; Poultry Class; Poultry, Dressing Percentage; Poultry Roasting; Poultry Yield

duck, canvasback (*Aythya valisineria*) An edible wild American duck

duck, crisp See **duck, pressed**

duck egg Incubation (turn 3 times per day) times are 35 days for Muscovy eggs and 28 days for other domestic duck eggs

Duck breed (for meat)	Color	Market weight (lb)	Country where raised	Size	Egg	
					Color	No. laid per year
Aylesbury	White	8	England	Large	Tinted white	150
Muscovy	White	7–10		Large		40–45
White Pekin	White	7	United States	Large	Tinted white	160

Duck breed (egg-producing)	Color	Originated	Adult weight (lb)	Eggs laid per year
Indian Runner	White	East Indies	4½	
Khaki Campbell	Khaki with bronze backs, tails, head, and neck	England	4½	300 (avg.)

262 duck eggs, salted

duck eggs, salted Duck eggs that have been soaked in brine for 35 days; the egg white becomes salty and the yolk becomes firm and orange.

duckling A young duck, usually 7–8 weeks of age
1 duckling, dressed = 3.5–4.5 lb
See **duck**

duck, Long Island A young duck, with tender flesh, that has been force-fed on grain; grown at duck farms on Long Island, New York

duck, pressed (duck, crisp) Boned, pressed pieces of duck that have been fried until crisp

duck rice *See* **wild rice**

duck, western A young duck

duck, wild Various wild ducks are used for food:
Black mallard (black)—a game duck used as food
Canvasback—an excellent food duck
Mallard—the most important wild food duck
Pintail (sea pheasant)—a game and food duck
Teal (puddle)—a small duck
Chinese
Cinnamon
Green wing
Widgeon—med. weight (2–3 lb); good flavor
Wood duck—excellent for food
Asian Mandarin
North American Carolina

ducs A creamy, semisoft, surface-bacteria-ripened, mild-flavored cheese made from cow's milk

duct A tube through which liquid or air flows

dud A food container with low vacuum

dud detector A machine used to detect and reject containers with low vacuum

due date The date when purchased material will be available for use

due-date rule A dispatching rule that directs sequencing by the earliest due date

duel cheese A small rennet cheese made from cow's milk

dug Teat; nipple

dugh *See* **doogh**

duhat *See* Part 2: Fruit Classification

dulce Carragheen moss *See* **dulse**

dulcin ($\text{H}_2\text{NOCNHC}_6\text{H}_4\text{OC}_2\text{H}_5$) A synthetic sweetener that has been restricted by the FDA
See Part 2: Sweetness of Sweeteners

dull Describes cloudy tea

dulse (*dillesk*; *dillisk*; *Dilsea carnos*; *Rhodomenia palmata*) A red-algae seaweed found along the New England coast and used for food (raw or cooked) and for making an alcoholic drink

dumpling A small, moist piece of steamed or baked dough, often stuffed with fruit or sweets; irregularly shaped pasta ($\frac{7}{8} \times \frac{7}{8}$ in.)

dumpwurst A moist, cooked Australian sausage

dumyati A white, brined cheese made from (whole or skimmed) cow's or buffalo's milk

Duncan A variety of early Florida grapefruit

dundee cake A rich fruit cake covered with almonds

dung Feces

dungeness *See* **crab**

dunlop A firm, hard, cheddar-type cheese *See* **dunlop cheese**

dunlop cheese A moist, firm-textured cheese similar to cheddar

dunmow flitch A side of bacon

dunnage 1) Platforms on which cartons are stacked, sometimes known as tare. 2) Bracing and packing material

Dunphy's A liqueur made from cream and Irish whiskey

duodenum The first part of the small intestine attached to the stomach

duo-standard A testing method by which two samples are presented as knowns and are given again as unknowns for identification

duo-trio A testing method by which a panel is given three samples, one of which is labeled "reference;" the other two samples are coded. One of the coded samples is the same as the reference sample, the other is different. Panelists are asked to match the reference with the unknown or to identify the odd sample.

See Part 2: Taste Panel, Difference Tests

duplex Describes paper or paperboard made by laminating two pieces of paper with an adhesive

Du Puits A variety of alfalfa

Durham The name once used for the Shorthorn breed of cattle

durian (*Durio zibethinus*) A large tree that produces a 6- to 8-lb dull yellow fruit covered with spines; a taste has to be acquired for the ivory-colored, custardlike, soft, creamy pulp (which is eaten fresh and made into drinks) because the fruit's odor is unpleasant. The seeds may be roasted like chestnuts.

See Part 2: Fruit Classification; Fruit Storage

duriff A red burgundy-type table wine

Durnad, Peter (1810) Invented glass and tin canisters for food

Duroc A meat-type breed of hogs that originated in New England from several strains of red hogs (primarily the Jersey Reds of New Jersey and Durocs of New York); it is cherry red in color and has drooping ears.

See Part 2: Swine Breeds

Duroc-Jersey Early name of the hog association now known as Duroc

durra 1) A type of sorghum. 2) A variety of corn used in India. 3) A plant having a toxic principle
See Part 2: Poisonous Plants

durum flour Flour made from durum wheat with a particle size of 140 μm or less; used to make noodles and, to a lesser extent, macaroni

durum granular A milled product from durum wheat that may contain 20% flour; used in macaroni products

durum wheat (*Tricilum durum*) A hard wheat with high gluten content used in making macaroni products; the plant is resistant to cereal rust. *See also wheat*

düsseldörfer A dark-colored bitter ale

dust To cover lightly with a dry ingredient (often flour or powdered sugar)

dust tea Powdered green tea

dusty Describes a property of food suggestive of a drying or choking quality or of finely divided particles

Dutch *See cottage cheese*

Dutch Belted A dairy-type breed of cattle that is black with a large belt of white extending around the body

Dutch-brand loaf A meat-loaf product made from pork and beef
Composition: moisture 59%; protein 13.4%; fat 17.8%; carbohydrate 5.6%; ash 3.8%

Dutchess A variety of apples that are in season from July to Sept. and that make good pies and sauce but are only fair eating

Dutch gin A full-flavored gin, with a low alcohol content, distilled from mash high in malt and caraway seed

Dutch loaf *See Part 2: Sausage, Nutritive Value*

duty A tax levied by a government on the import, export, and consumption of goods

duxelles A flavoring mixture of mushrooms, shallots, herbs, and butter that is cooked to a paste and used in garnishes, sauces, or stuffings

D value *See decimal reduction time*

dwarf Of a tree, a small tree (6–8 ft tall) that produces fruit early (3 yr)

dwarf cape gooseberry *See gooseberry*

dwarf fruit tree A standard tree that has been grafted onto special rootstock to keep it from growing to a large size (10–12 ft tall) but that produces normal-sized fruit *See dwarf tree*

dwarfism The occurrence of small, midget-type animals; among domestic animals, usually associated with cattle (y is the gene for a dwarf and x is the normal gene):

1. Dwarf carrier (xy) × non-dwarf carrier (xx) → $\frac{1}{2}$ carrier (xy) offspring and $\frac{1}{2}$ noncarrier (xx) offspring
2. Dwarf carrier (xy) × dwarf carrier (xy) → $\frac{1}{4}$ dwarf (yy), $\frac{1}{2}$ carrier (xy), and $\frac{1}{4}$ noncarrier (xx) offspring

dwarf tree A grafted tree whose final size depends on the rootstock used *See dwarf fruit tree*

Advantages:

- Ease of pruning, spraying, and harvesting
- Bears fruit at a younger age

Fruit is the same size as on a full-size tree

Dwarfing does not shorten tree life

dwojniack A sweet, honey-fermented, alcoholic beverage that is often flavored with fruit juice and spices

dwt *See grain (troy)*

Dy Symbol for the element dysprosium

dye A soluble organic substance that absorbs certain wavelengths of radiant energy in the visible spectrum
See also colorant

dyne (dyn) A measure of force (e.g., weight)

- 1 dyn = 1.020×10^{-3} gram (g)
- = 7.233×10^{-5} poundal
- = 1.0×10^{-5} joule per meter [J/m, or newton (N)]
- = 2.248×10^{-6} pound (lb)
- = 1.020×10^{-6} kilogram (kg)
- = 1.0×10^{-7} joule per centimeter (J/cm)

dyne-centimeter (dyn-cm) A measure of heat, energy, and work

- 1 dyn-cm = 1 erg
- = 0.00101979 gram-centimeter (g-cm)
- = 0.000000737612 foot-pound (ft-lb)

dyne per cubic centimeter (dyn/cm³) A measure of density

- 1 dyn/cm³ = 0.00118528 poundal per cubic inch
- = 0.00101979 gram per cubic centimeter (g/cm³)

dyne per square centimeter (dyn/cm²) A measure of pressure

- 1 dyn/cm²
- = 0.01 erg per square millimeter (erg/mm²)
- = 0.0010197 gram per square centimeter (g/cm²)
- = 0.000466646 poundal per square inch
- = 2.953×10^{-5} inch of mercury [in. Hg (at 0°C)]
- = 1.0×10^{-6} bar
- = 9.869×10^{-7} atmosphere (atm)

dys- A prefix meaning difficult or bad

dysentery An infectious disease of the intestines characterized by loss of water

See Part 2: Diseases, Food-Borne; Infectious Agents

dysgustia An impairment of the ability to taste

dysosmia Difficulty in the ability to smell

dyspepsia An impairment of digestion

dysphagia Difficulty in swallowing

dysprosium (Dy) A rare-earth element of the lanthanide series; at. no. 66; at. wt. 162.51; Group IIIB of the Periodic Table, oxidation state +3
electron configuration 2-8-18-28-8-2
orbit K L M N O P

dystrophy Defective nutrition, usually of muscles; often due to vitamin-E deficiency

E

E See **volt**

ear The fruiting head of corn, including only cob and grain See **corn**

See Part 2: Corn; Pork Cuts and Uses

ear fungus A mushroom

Earl Gray tea A tea, scented with oil of Bergamot, e.g., Sri Lankan black tea

early blight A leaf-spot disease that strikes leaves that are frequently wet
Control: Apply maneb or zineb.

early bloom The stage of maturity between the initiation of blooming to one-tenth of the plants being in bloom

early leaf The stage of maturity at which plants reach one-third of growth before blooming

early leaf spot (A fungal *Fabrea maculate*) disease that causes dark brown spots on leaves and cankers and cracks on pear fruit

early maturity Of a plant, quick attainment of full development

Early Ohio An all-purpose variety of potato

earth almond See **chufa**; **peanut**; **tiger nut**

earthiness Describes a dusty or earthy taste sometimes found in wine

earthnut 1) A small truffle (*Bunium flexosum*, *Conopodium denudatum*). 2) See **peanut**

earthstars A type of fungus

earth tongues A type of fungus

earthy Having the flavor or odor of earth or soil, e.g., a food flavor that suggests soil

earwig An insect that sometimes feeds on vegetable leaves

earworm A pest that infests corn
See Part 2: Insect Control

Easter The Christian holiday that falls on the first Sunday following the first full moon after the vernal equinox; foods associated with Easter include the egg, lamb or kid, and ham.

Easter bun A hot cross bun

Easter egg 1) A hen's egg that has been hard-boiled and colored. 2) A candy See **candy**

Easter nola A dry (moisture-protein ratio 1.9:1 or less) Italian salami made from coarsely chopped, mildly seasoned (with black pepper and garlic) pork
See **salami**

Eastern style A method of cutting beef

easy-lift An indentation in the body of a can that will aid in lifting the tongue

easy-open end A can end with a tab or other device that allows it to be opened easily (e.g., a full-panel easy-open or a spiral)

eat To consume food; to ingest

eating unit A group of people habitually sharing food prepared in the same kitchen or in several common kitchens

eau clairette A sweet, spicy liqueur that contains small pieces of gold

eau-de-cidre A potable spirit made from cider

eau-de-grain A potable spirit made from grain

eau-de-marc A potable spirit made from the skin and seeds left after pressing grapes

eau-de-prunelle A potable spirit made from black-thorn fruit and gin

eau-de-vie A potable spirit made from wine; brandy

eau d'or Liqueur with gold particles

eba A porridge or past made from cassava (*Manihot*) flour

ebonite Hard rubber

See Part 2: Insulation, Conductivity Values

EC European Community

eccles cake A cake made by wrapping a filling of currants, butter, and sugar in puff pastry and baking

ecdysis Molting

échaudé A poached pastry that is dried by baking

èchezaux A red wine

echinacea An herb used for tea

echourgnac A tilsit-type cheese

éclair (From French meaning "lightning.") A finger-shaped pastry filled with custard or whipped cream and often covered with chocolate icing
Storage: refrigerate immediately

EC medium A selective broth for the growth of coliform bacteria at 37°C and for *Escherichia coli* at 45.5°C

See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

eco- prefix meaning house

E. coli (*Escherichia coli*) An infective microorganism.

See Part 2: Microorganism, Media

ecology The study of the relationships between animals and plants and their whole environment

economic analysis A method of evaluating how much should be purchased and when, including consideration of what inventory levels should be maintained

economic emergency disaster payment A payment when a disaster has reduced production and when the loss of production results in an economic emergency

economic order quality (EOQ) A type of fixed-order quantity that determines the amount of an item to be purchased or manufactured at one time; the purpose is to minimize the combined costs of acquiring and maintaining inventory.

ecosystem An ecological system that is the sum of all physical and chemical reactions and all biological organisms interacting in a given space

ecto- A prefix meaning outside

eczema An inflammatory condition of the skin, some types of which are caused by a deficiency of essential fatty acids

edam A mild-flavored, pale-colored, semisoft to semihard, pasteurized, inoculated cheese from Holland made from partly skimmed cow's milk with rennet added; the curds are scalded, not textured, and pressed; it is ball-shaped, slightly flattened at top and bottom, with a rind coating of red or pale gold wax and is a mellow cheese, softer than cheddar, with a cheddar-type flavor (that is mild and nutlike); it has a creamy, yellow interior; ripened 2 months; used as a dessert, cooking, snack, or sandwich cheese

Sizes:

Commissie—6–9 lb

Edam—1–5 lb (usually 3–4 lb)

Middelbare—10–14 lb

Composition: moisture 39–42%; protein 25–31%; fat 20–40%; carbohydrate 1–2%; fiber 0%; ash 4–5%; salt 2% (274 mg Na/oz); pH 5.4

Fat content is lower than gouda

Storage: can be frozen (0°F) in pieces no more than 1 in. thick; use within 6 months.

See Part 2: Cheese Characteristics; Cheese Composition; Cheese, Vitamin Content; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

edamer An edamlike cheese

edam, smoked A tangy, smoky, edam cheese that is used for sandwiches

EDB Ethylene dibromide See **ethylene dibromide**

eddo See **taro**

edelkost A salami made from beef and pork; a dry, uncooked, smoked Belgian sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

edelpizkäse A full-cream, soft, blue-veined cheese, made from cow's milk, with a strong moldy flavor and shaped into a rectangular block

edelweiss 1) A soft-ripened cheese from Germany. 2) A perennial herb growing in high mountain areas (Alps). 3) A liqueur flavored with flowers and sugar

edelszwicker A white wine made from two or more different types of excellent grapes

edema The retention of abnormal quantities of fluids in the tissue and the swelling due to accumulation of excess water; some types caused by excessive sodium in the diet

EDF See **European Development Fund**

edi A sour porridge made from sorghum or millet

edible Fit for human consumption and able to be eaten

edible meat See Part 2: Edible Meat and Chilled Carcass

edible oil A vegetable oil used as food, e.g., coconut oil, corn oil, etc.

edible-podded pea See **sugar pea**

edible portion The portion of food consumed by an average person, e.g., boneless meat with $\frac{3}{8}$ -in. ($\frac{1}{4}$ – $\frac{1}{2}$ in.) maximum fat cover

edirne A soft, white, panir-type cheese made from ewe's milk

editic acid See **ethylenediaminetetraacetic acid**

edo miso A light red-brown, flavorful, low-salt paste made (with short fermentation) from soybeans (often mixed with cereals)

EDP Experiment and Demonstration Plant

EDTA (Ethylenediaminetetraacetic acid) A food antioxidant that ties up metals See **ethylenediaminetetraacetic acid**

EEB broth An enrichment broth for the detection of enteric bacilli in foods; it is a brilliant green bile broth modified by incorporation of dextrose.

See Part 2: Microbiological Media

EEC The European Economic Community, formerly called the Common Market See **European Economic Community**

eel Any of the elongated, snakelike finfishes with a smooth skin; some are strictly marine and others live in fresh water but descend to the ocean as they approach sexual maturity; eels used as a food fish have light meat (up to 30% fat) and light to moderate flavor; many kinds are important as a food source:

American (*Anguilla rostrata*)

Australia (*A. aucklandii*)

Broad nose

Conger (*Conger conger*)

European (*A. anguilla*)

Grig

Japanese (*A. dieffenbachii*; *A. japonica*)

Moray (*Muraena helena*)

Sharp-nosed

Short-finned (*A. dieffenbachii*)

Snig

Available forms: live; fresh; frozen; smoked (salted and dried); jellied; fried; vinegar-cured; canned

See also **freshwater fish**

See Part 2: Minerals, Food

eel brass mats A medium-density material sometimes used for its heat insulation value in refrigeration systems

See Part 2: Insulation

eel, conger A large, edible saltwater eel with less fat than freshwater eel

266 eelgrass (*Zostera marina* L.)

eelgrass (*Zostera marina* L.) A flowering and seed-producing plant that grows fully submerged in seawater whose seed can be ground into flour

eel pie A mixture of fish (mostly eel), lemon, parsley, and shallots covered with puff pastry

eel pout (burbolt; burbot) 1) Barbot (*Lota lota*), a codlike freshwater fish. 2) *Zoarces viviparus*, and eel-like fish

eelworm A very small, eel-like pest that feeds on the roots and leaf tissue of many vegetable plants (e.g., lettuce, potatoes, and tomatoes)

EFA Essential fatty acids *See also* **essential** (2)

effervescence The rising of gas bubbles in a liquid

effervescent Containing gas bubbles induced by fermentation or carbonation

efflorescence The change induced in a compound by the loss of water of hydration

EFP *See* **exchange for physical**

EFTA European Free Trade Association

e.g. *Exempli gratia* (Latin, for example)

eggle Dumpling balls made from steamed degermed maize

egg The reproductive cell of the female (fish eggs are called roe); the term is used as the class name for whole eggs (liquid, dried, or frozen) produced by birds. USDA egg grades:

U.S. Grade AA—top quality; used for frying and poaching

U.S. Grade A—almost as good; used for frying and poaching

U.S. Grade B—used for general cooking and baking

See also **egg grade**. Shell color (brown or white) depends on the breed of the hen and does not influence egg quality; yolk color is influenced by feed (e.g., green feed yields darker color). Eggs are generally considered pareve.

Cooking: Eggs cooked in the shell should be placed in cold water after cooking to aid shell removal.

Coagulation temperature (°C):

White

Begins, 55–57

Jellylike, 60

Completed, 65

Yolk

Begins, 62–65

Completed 70

To pasteurize:

White—134°F for 2 min

Whole egg—142°F for 2 min

Yolk—142°F for 2 min

	Boiled		Coddled		Baked	
	Water temp. (°F)	Time (min)	Water temp. (°F)	Time (min)	Oven temp. (°F)	Time (min)
Soft	212	2–4	180–200	6–10	250–350	6–10
Hard	212	20–30	180–200	30–45	250–360	25–40

Equivalents:

1 carload = 500 cases (30 dozen each)
= 15,000 dozen

1 case or crate eggs, in shell = 30 dozen
= 47–60 lb

1 case eggs, in shell

= 39.5 lb whole eggs, liquid

= 10.8 lb whole eggs, dried

1 lb = 8–10 eggs

1 lb egg white, dried = $7\frac{1}{3}$ lb egg white, liquid

1 lb egg yolk, dried = $2\frac{1}{4}$ lb egg yolk, liquid

2-oz egg = $\frac{1}{4}$ oz shell + $1\frac{1}{4}$ oz white + $\frac{1}{2}$ oz yolk

8 yolks = 1 cup

8 whites = 1 cup

1 cup whole eggs = 8.8 oz

1 cup yolks = 8.5 oz

1 cup white = 9 oz

1 cup, scrambled (with milk, cooked in fat)
= 7.8 oz

1 small egg = 1.3 oz

1 med. egg = 1.5 oz

1 large egg = 1.8 oz

= 0.6 oz yolk + 1.2 oz white

1 extra-large egg = 2 oz

1 jumbo egg = 2.3 oz

1 large egg, boiled = 1.8 oz

1 large egg, fried in butter = 1.6 oz

1 large egg, in omelet (with milk, cooked in fat)
= 2.2 oz

1 large egg, poached = 1.7 oz

1 large egg, scrambled (with milk, cooked in fat)
= 2.3 oz

Frozen eggs (1 lb)	Equivalents	
	Fresh	Dry egg solids (lb)
White	15 whites	0.12 + 0.88 water
Whole	9 eggs	0.25 + 0.75 water
Yolk	23 yolks	0.45 + 0.55 water

1 cup eggs, whole, white, or yolk = 240 g

Equivalents:

1 whole egg

= 2 egg yolks

= (3 tbsp + 1 tsp) frozen egg

= (2 tbsp + 2 tsp) dry whole egg powder
+ equal amount water

1 egg yolk

= $3\frac{1}{2}$ tsp thawed frozen egg yolk

= 2 tbsp dry egg yolk + 2 tsp water

12–14 egg yolks = 1 cup

1 egg white

= 2 tbsp thawed frozen egg white

= 2 tsp dry egg whites + 2 tbsp water

7–10 egg whites = 1 cup

Small eggs:

3 small eggs = $\frac{1}{3}$ cup

= 2 med. eggs

Medium eggs:

5 med. eggs = 1 cup

3 med. eggs = 2 large eggs

= $\frac{1}{2}$ cup

2 med. eggs = 3 small eggs

= $\frac{1}{3}$ cup

Large eggs:

2 large eggs = $\frac{1}{2}$ cup

= 3 med. eggs

Egg	Percentage of egg	Composition						pH
		Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)	
Chicken egg, dried								
White		8.5-15	77-82	0.04	4.2-4.4		4.2-4.5	
Whole		4.1	45.8	41.8	4.8		3.4	
Yolk		4.6	30.5	61.3	0.4		3.2	
Chicken egg, white*	57-58	87-88.1	10.1-11	Trace	0.8-1.3	0	0.5-1	7-9
Chicken egg, whole	88-89†	73-74	13	11-11.5	1		1	7-9
Fresh, frozen, or raw		74.6	12.1	11.1	1.2		0.9	
Fried		71.9	11.7	13.9	1.1		1.4	
Hard-cooked		74.6	12.1	11.1	1.2		0.9	
Omelet		76.3	9.3	11.1	2.1		1.2	
Poached		74.3	12.1	11.1	1.2		1.3	
Scrambled		76.3	9.3	11.1	2.1		1.2	
Chicken egg, yolk‡	30-32	48.7-51	16-16.4	31.2-32.9	0.2-1	0	1.7-2	6-6.8
Sugared and frozen		50.8	12.9	25.5	9.5	0	1.3	
Other eggs, whole								
Duck		70.8	12.8	13.8	1.4	0	1.1	
Goose		70-71	13-14	13-14	1.3		1.0	
Quail		74.3	13	11	0.4		1.1	
Turkey		72-73	13-14	11.5-12	1.1-1.2		0.8	

*White is 60% of edible portion.

†Shell is 11-12% of the egg.

‡Yolk is 40% of edible portion.

Compositions: Yolk protein is chiefly vitellin, white protein is chiefly albumin. The yellow pigment in yolk is chiefly xanthophyll. Sodium content—59 mg per whole egg (50 g), 50 mg per white (33 g), 17 mg per yolk (17 g): One large whole egg or yolk contains 252 mg cholesterol.

To remove stain from cloth: scrape excess and soak in cold water with enzyme product; wash in hot suds; use cleaning fluid if necessary.

Defect action level (frozen eggs): 2% shell by weight; two cans of a lot contain decomposed eggs (5,000,000 bacteria per gram)

Storage methods:

Refrigerated in shell—large end up, 28-31°F; use within 1 week.

Preserved by rubbing with fat or immersing in isinglass

Shell treated—dipped in mineral oil to seal pores, retard evaporation, and protect quality; large end of shell should be pricked prior to cooking

Flash hot treatment—dipped in boiling water for 5 s then cooled; this coagulates a thin layer of egg white (which sticks to the shell) that protects contents.

Cold storage—45°F or lower

Yolks: Cover with cold water and refrigerate; use within 1-2 days.

White—Cover and refrigerate; use within 1-2 days.

Frozen (-10°F) storage life 1 yr.

Dried: Refrigerate (35°F); relative humidity as low as possible; use within 6 months to 1 yr.

See egg size; water glass

See Part 2: Animal Foods, Composition; Calcium, Daily Recommendations; Calories, Daily Recommendations; Cholesterol Control; Egg Composition; Egg,

Dried Equivalents; Egg Equivalents; Egg Incubation Periods; Egg Products, Nutritive Value; Egg Quality; Egg Quality and Size Label; Egg Quality, Broken; Egg Specifications; Egg Structure; Egg Volume; Food, Composition; Glutamate; Iron, Daily Recommendations; Minerals, Food; Minerals, Plant or Animal Tissue; Nicotinic Acid, Food; Pantothenic Acid Content; Protein Factors; Riboflavin, Daily Recommendations; Riboflavin, Food; Spoilage, Protein Foods; Storage Times; Thiamin, Daily Recommendations; Thiamin, Food; Unsaturated Fatty Acids; Vitamin A, Daily Recommendations; Vitamin A, Food; Vitamin D, Food

egg albumin (ovalbumin) Egg white

eggs benedict Ham, poached eggs, and Hollandaise sauce served on English Muffins

egg-blossom soup Made by adding raw egg to boiling chicken soup (which cooks the egg)

egg cheese A cow's milk cheese made by mixing raw milk or dried curd with raw eggs and sometimes soda

egg, dried Store tightly covered in refrigerator.

Composition	Whole	Yolk powder
Moisture (%)	1.8-2.0	8-9
Protein (%)	48-49	82-83
Fat (%)	43-44	0.04
Carbohydrate (%)	2.3-2.4	4.4-4.6
Fiber (%)	0	0
Ash (%)	3.6-3.7	4.4

egg-drop soup See egg-blossom soup

268 egg, duck

egg, duck Should be well cooked because of possible bacterial infection

1 egg = 2.8 oz

Composition: See egg

egg, emu A food egg that contains a large amount of oil

eggflip See eggnog

egg-flower soup See egg-blossom soup

egg foo yong An entrée containing eggs, beef, onions, tomatoes, water chestnuts, bean sprouts, mushrooms, soy sauce, and monosodium glutamate

egg, freshness test An egg is placed in cold water; its resting position is used to judge freshness.

Egg's resting position:

Lying on its side, on bottom of container—fresh egg

Standing at an angle, on bottom—4–5 days old

Standing on end, on bottom—10 days or older

Floating on the surface—quite old

egg, goose Composition: See egg

1 egg = 5.8 oz

egg grade A measure of firmness and height of yolk and thickness of white

USDA Grades: AA or fresh fancy quality; A; B; C

The USDA shield indicates the quality of the egg and that the egg has been certified under USDA supervision, has been packed in a plant under USDA sanitary requirements, and has been checked for size. Not considered in egg quality are egg size or shell color (which does not affect quality or nutritive value and is determined by the hen's breed).

egg incubation time The time required for an egg to incubate:

	Days		Days
Duck	28	Hen	21
Goose	30–35	Pigeon	17
Guinea	26–28	Turkey	28

egg meat medium A liquid medium containing meat, egg white, and calcium carbonate; it is used for determination of microorganisms' proteolytic activity and for carrying stock cultures of anaerobes.

See Part 2: Microorganism, Media

eggnog (eggflip) An egg beaten with sugar, milk and cream, flavoring, emulsifier, stabilizer, and sometimes liquor (rum or sherry), vanilla, fruit juices

1 cup = 8.4–9.2 oz

Composition: moisture 74–75%; protein 2.6–4.5%; fat 4–8%; carbohydrate 13–14%; fiber 0%; ash 0.8%; milk fat 6% min.; total milk solids 28% min.; 8 tsp sugar/8 oz

See Part 2: Dairy Products, Composition II

egg noodle A flat pasta made of wheat flour and eggs; contains min. 5½% egg solids by weight of finished product

egg, ostrich Two tablespoons of a mixture of 1 tbsp water and 1 tbsp beaten ostrich egg are equivalent to one chicken egg

USDA quality grade	Also known as	Egg qualities				
		Air cell	White	Yolk	Shell	Use
AA	U.S. special	Not more than $\frac{1}{8}$ in. depth; regular	Thick, clear; firm	Firm; slightly defined; no defects	Clean; unbroken	Very fancy; not found in most stores
A	U.S. extra	Not more than $\frac{3}{16}$ in. depth; regular	Reasonably thick, clear; reasonably firm	Firm; fairly well defined; practically free of defects	Clean; unbroken	Top grade; in most stores
B	U.S. standard	Not more than $\frac{5}{8}$ in. depth; unlimited movement; free or bubbly	Thin, clear; slightly weak	Enlarged, flattened; well defined; no serious defects	Stained; unbroken	Usable grade; for most purposes
C	U.S. trade	Over $\frac{5}{8}$ in. depth; free and bubbly	Weak	Plainly visible, serious but edible defects		Cooking, where flavor is not so important

Terms:

Check—broken shell but membrane intact

Dirty—adhering foreign material; stains covering one-fourth of surface

Leaker—contents leaking; cannot be used for human consumption

Loss—contents lost

See egg size

egg, guinea Incubation period is 26–28 days.

1 egg = 1.4 oz

eggplant (aubergine; brinjal; bringall; mad apple; *Solanum melongena*; *S. melongena esculentum*) A deep-rooted plant producing a glossy, deep purple (sometimes white, red, green, yellow, gray, or brown), firm-fleshed berry containing many seeds; this large berry is oblong, egg-shaped or sausage-shaped, and 4–12 in. long; 6000–6700 seed/oz; germination period 7 days; transplant 18 in. apart in rows 36 in. apart; harvest when 3–5 in. long (4–12 in. for oriental varieties) and skin is glossy; bitter when overripe and bruises easily; it is used as a

vegetable—sliced, freshened or exposed to the air, coated with batter, and cooked [fried in oil (190–196°C, 375–385°F), baked, broiled, or steamed].

Color and variety	Fruit	Season (from time plants are set)
Purple		
Black Beauty	Large, oval	75–80 days
Black Bell	Large	60 days
Black Magic	Oval	Early
Burpee Hybrid	Med. size, oval	Early, 70 days
Dusky Hybrid	Oval	Early, 60 days
Early Beauty	Small, oval	62 days
Florida High Bush		75–80 days
Ichiban Hybrid	Long, narrow	61 days
Jersey King	Cylindrical 10–4 in.	75 day
Long Tom	Long, slim	Early
Mission Bell		
Morden Midget	Med.	65 days
New York Improved		75–80 days
New Hampshire		60 days
Slim Jim		
Red		
Chinese, Tomato		
Very dark		
Black Pekin	Small	
White (popular in Europe)		
Blanche Longue de la Chine		
Yellow		
Oriental	Small, white; turns yellow at maturity	

1 eggplant = 1–5 lb
 1 med. eggplant
 = 1.5 lb
 = 1–1.25 lb, peeled, diced, and chopped
 1 small eggplant = 0.7 lb
 1 lb, fresh = 1 pt, frozen
 = 2½ cups, diced
 1 cup, boiled, drained, sliced = 7.1 oz
 1 serving = ¼ med. eggplant

Storage: in cool room (45–50°F); 85–90% relative humidity; will keep several months below 60°F; will keep 1 week above 60°F.

Composition raw: moisture 92%; protein 1%; fat 0.2%; carbohydrate 6%; ash 1%; pH 4.5

See Part 2: Fruit Classification, Frying Time; Minerals, Food; Plant Foods, Composition; Planting Density; Storage; Sugar, Vegetables; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Storage; Vegetable Yields

egg, pullet Usually a smaller and better-flavored egg

egg, quail Composition whole fresh, raw: moisture 74.3%; protein 13.0%; fat 11.1%; carbohydrate 0.4%; ash 1.1%

egg quality See Part 2: Egg Quality and Size Label

egg roll A Chinese hors d'oeuvre or main course made from a pancakelike wrapper stuffed (with chicken, pork, prawns, shrimp, and vegetables)

egg shell 94% calcium carbonate; fertilizer notation 1.2-0.6-0.3

egg size Minimum required weight per dozen is as follows.

USDA grade:

Jumbo 30 oz/doz

Extra large 27 oz/doz

Large 24 oz/doz

Medium 21 oz/doz

Small (pullet) 18 oz/doz

Peewee 15 oz/doz

Med. size is a good buy if weight is 1/8 less than large; small size, if weight is one-fourth less than large

See Part 2: Egg Quality and Size Label

egg spaghetti A pasta containing min. 5½% egg solids by weight of finished product

egg substitute Available in the following forms: frozen (contains egg white, corn oil, and nonfat dry milk); liquid (contains egg white, hydrogenated soybean oil, and soy protein); powdered (contains egg white solids, whole egg solids, sweet whey solids, nonfat dry milk solids, and soy protein)

Composition	Frozen	Liquid	Powdered
Moisture (%)	73.1	82.7	3.1
Protein (%)	11.3	12.0	55.5
Fat (%)	11.1	3.3	13.0
Carbohydrate (%)	3.2	0.6	21.9
Ash (%)	1.3	1.3	5.8

egg, turkey Composition (whole, fresh, raw): moisture 72.5%; protein 13.7%; fat 11.9%; carbohydrate 1.1%; ash 0.8%

1 egg = 3.1 oz

egg white Albumin; the class name for liquid, dried, or frozen egg white; contains min. 11.5% egg solids; max. 0.03% fat; coagulates at 135–160°F. Air beaten into egg white acts as a leavening agent in angel food cakes.

5–6 egg whites = ½ cup

See also **egg**

egg-white factor The antivitamin avidin See **biotin**

egg, whole Min. 25.5% egg solids

egg yolk The class name for liquid, dried, or frozen egg yolks; color does not influence nutritional value or flavor and is determined by the feed and the hen's breed:

Factors that deepen color:

Yellow corn—increases color

Green feed—increases color

Egg laid in summer—increases color

10% of egg yolk is saturated fat; 13% is oleic acid; 2% is linoleic acid

6 egg yolks = ½ cup

egi A red of white wine

egmont A type of gouda cheese made from slightly ripened milk

egri A white or red wine

egurt Yogurt**egusi melon** See gourd**Egyptian** See goose**Egyptian lotus** An edible water lily whose fruit has a nutlike kernel and whose leaves and roots are used as vegetables**Egyptian onion** (*Allium cepa* var. *viviparum*) Tree onion; a hardy perennial that produces bulbs on the tips of long green shoots; the bulbs are used like ordinary onions, and the stalks may also be used. See **onion**, **Egyptian**; **onion tree****Eh** The oxidation-reduction (OR) potential, which is a measure of the ability of a reversible system to give or receive electrons:

$$E_h = E_0 - \frac{RT}{nF} \ln \frac{[\text{red}]}{[\text{ox}]}$$

 E_0 = a constant characteristic of the system R = gas constant

= 8315 volt-coulombs

 T = absolute temperature n = number of electrons involved F = faraday

= 96996 joules/volt

 \ln = natural logarithm (base e)

[red] = concentration of reduced state

[ox] = concentration of oxidized state

At 30°C and constant pH, the formula becomes

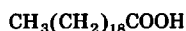
$$E_h = E_0 - \frac{0.06}{n} \log \frac{[\text{red}]}{[\text{ox}]}$$

$$E_h = E_0 + \frac{0.06}{n} \log \frac{[\text{ox}]}{[\text{red}]}$$

, where log is the common logarithm

Ehrlich Color reaction of the indole nucleus in such compounds as tryptophan

See Part 2: Protein and Amino Acid, Color Reactions

EI Electron impact**eicosanoic acid** (arachidic acid)

A saturated fatty acid found in peanut oil

See Part 2: Saturated Fatty Acids

eicosatetraenoic acid (arachidonic acid) A 20-carbon unsaturated fatty acid found in lecithin

See Part 2: Unsaturated Fatty Acids

eicosenoic acid An unsaturated fatty acid

See Part 2: Unsaturated Fatty Acids

eicosopentaenoic acid A fatty acid found in fish that has been reported to reduce platelet aggregation and to lower serum triglyceride levels**eidamska** An edam-type cheese**eierkuckas** A rich pancake**Eijkman, Christiaan** A Dutch physician who proved that deficiency in the diet of polished rice causes beri-beri**Eijkman lactose medium** A broth used for the differentiation of fecal strains of *Escherichia coli* from other coliform organisms

See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

eilath An edam-type cheese**ein-geda** A foil-wrapped camembert-type cheese made from cow's milk**einkorn** (*Triticum monococcum*) A coarse wheat grain**einsteinium** (**Es**) A radioactive element of the actinide series; at. no. 99; Group IIIB of the Periodic Table; mass number of the most stable isotope is 254; electron configuration 2-8-18-32-29-8-2 orbit K L M N O P Q**EIR** Establishment Inspection Report**eish-shami** A pocketed flatbread**eis-likore** Liqueur on the rocks**eiswein** A rare wine made from grapes harvested and crushed while still frozen**ekmek** A wheat bread**eko** See agidi**ekt** A low-fat, high-moisture cheese made from sheep's milk**ekuck** A pocketed flatbread**ekuegbemi** A sour maize porridge**eland** An antelope that is often used for food**elastic** Describes a material with the property of recovering its original shape after being stressed or otherwise deformed; glass is 100% elastic, but most organic materials are less than 95% elastic after rupture.**elastic demand** A market situation where the percentage change in price will bring about a greater proportional change in the amount purchased, so that total receipts will be larger with a lower price**elasticity** A measure of the recovery rate when a material is deformed See **elastic****elasticity of demand** The tendency of demand to be influenced by factors such as price**elasticity of food demand** The basic concept for food projections based on the ratio of the rate of change of consumption of a product to the rate of change of income of the consumer**elastin** A connective-tissue protein (yellow elastic) of meat made up of branched fibers; cooking does not appreciably alter the properties of elastin fibers and they are indigestible

See Part 2: Connective Tissue, Composition; Connective Tissue Proteins

elastator A tight rubber ring that is placed on an animal for docking or castration: it cuts off the blood circulation and results in sloughing off of the tail or scrotum. It is also used in the slaughter industry to seal the esophagus of beef carcasses.**Elberta** A variety of freestone peaches**Elberta season** The season for peach cultivars that ripen midseason**elbing cheese** A hard, German rennet cheese

elbo An oblong or loaf-shaped, 12-lb yellow paste with few eyes and a red-brown rind gouda-type cheese

elbow The articulation joint between the humerus and radius-ulna

elbow macaroni A curved pasta

elder (*Sambucus nigra*) A small tree that produces small, dark, purple-black berries that are made into teas, wines, jellies, jams, and pies; the flowers (fresh or dried) are used as a flavoring.

Composition (raw berry): moisture 80%; protein 3%; fat 0.5%; carbohydrate 16%; ash 1%

See Part 2: Fruit, Frozen Yield

elderberry A purplish black berry that grows on a 10-ft plant and is used in pies, jellies, jams, and wine making; bearing age 2 yr; yield 6 lb/plant

1 crate (24 qt), fresh = 36 pt, frozen

1 pt, frozen = 1.3–1.5 pt, fresh

Cultivar	Season	Berry
Adams No. 2	Aug.	Large
Johns Improved	Aug.	Large
Kent		
Nova		
York		

elderberry tea Tea made from the berries (sometimes the bark, roots, leaves, and flowers) of the elder tree See also **elder**

elderberry wine See **elder**

electric ray (*Torpedo spp.*) A food fish

electrode 1) A probe used with a meter to measure specific ions, e.g., hydrogen ions (for pH). 2) A device for making electrical contact between a solution and a conducting wire

electrolysis The migration of ions in a solution through which an electrical current is being passed

electrolyte A compound that ionizes in aqueous solution and thus increases the electrical conductivity of the solution; the term applies to acids, bases, and salts, e.g., sodium chloride

electrolytic capacitor A metal foil with a dielectric metal oxide film in an electrolytic solution

electrometric method A method for determining a pH value using a pH meter

electromotive force series (activity series; emf) A list or table of elements arranged according to decreasing tendency to lose electrons and become positive ions:

Potassium (K)
Sodium (Na)
Barium (Ba)
Calcium (Ca)
Magnesium (Mg)
Aluminum (Al)
Manganese (Mn)
Zinc (Zn)
Chromium (Cr)
Iron (Fe)
Cadmium (Cd)
Cobalt (Co)

Nickel (Ni)
Tin (Sn)
Lead (Pb)
Hydrogen (H₂)
Antimony (Sb)
Bismuth (Bi)
Arsenic (As)
Copper (Cu)
Mercury (Hg)
Silver (Ag)
Platinum (Pt)
Gold (Au)

electron (e⁻) A small, negatively charged particle that is a constituent of all atoms and orbits the nucleus of an atom

negative charge on electron *e*

= 1.59×10^{-19} coulomb (C)

= 4.802×10^{-10} electrostatic unit (esu)

Mass (at rest) = 9.11×10^{-28} gram (g)

Radius = 2.8×10^{-13} centimeter (cm)

See Part 2: Constants, Fundamental

electronegative Descriptive of an element that has a tendency to acquire electrons and become a negative ion and is, therefore, low in the electromotive force series, e.g., chlorine

electron valence The type of valence of polar compounds

electron volt (eV) The amount of kinetic energy gained by an electron accelerated through an electric potential difference of one volt

1 eV = 1.6×10^{-19} joule (J)

1 eV absorbed per gram = 1.6×10^{-8} gray (Gr)

electrophoresis The movement of electrically charged particles in a dc current field

electropositive Descriptive of an element that has a strong tendency to lose electrons and is, therefore, high in the electromotive force series, e.g., sodium

element One of the distinct, basic types of matter that has characteristic chemical properties; 106 elements are known, 92 of which occur in nature

See Part 2: Elements; Equivalent Weights

elemi A natural resin from a Philippine tree

See Part 2: Essential Oils

eleostearic acid An unsaturated fatty acid found in vegetable oils

See Part 2: Fatty Acids, Fats and Oils; Fatty Acids and Their Properties; Oil, Seed and Fruit; Unsaturated Fatty Acids

elephant ear A flat, round (jelly-roll-style), baked pastry made from yeast dough flavored with cinnamon and sugar See **taro**

elephant fish (*Mormyrus oxyrhynchus*) A food fish of the Nile

eligible producer An individual who signs an agreement to carry out certain practices

ELISA Enzyme-linked immunosorbent assay

elisavetpolen cheese A Russian cheese made from sheep's milk

elixir amorique A green herb liqueur

elixir d'Anvers A yellow-green, bittersweet herb liqueur

elixir de Chine A sweet, aniseed-flavored herb liqueur

elixir de spa A sweet herb liqueur

elk Any of several species that are the largest members of the deer family:

Alces alces—a large, flat-horned European deer

Moose (*Alces americana*)—a large North American elk

Wapiti—the American Indian name for a large North American deer that is also called an elk

Elk are used for human food.

See Part 2: Gestation Periods

elk grass See bear grass

ell A measure of distance

1 ell = 114.30 centimeters (cm)

= 45 inches (in.)

ellbot See halibut

elliker broth A medium for the isolation and propagation of lactobacilli

See Part 2: Microorganism, Media

elm A tree that is fair for use as firewood [20×10^6 Btu/cord (20% moisture)], medium-difficult to start, and difficult to split and produces medium smoke, good coals, and few to many sparks

El Salvadorean strictly high-grown A flavorful, winy-tasting coffee

eltviller A white wine

elubo A porridge or paste made from yam (*Dioscorea*) flour

elubo gbaguda A porridge or paste made from cassava flour

elubo paki A porridge or paste made from cassava flour

elution The removal of a substance by washing

elutriation The washing of sludge to promote compacting

Elvejhem, Conrad Recognized that nicotinic acid could cure pellagra

elver Very young eels; used as food and available live or canned (cooked in hot brine and covered with oil)

-em- A syllable meaning blood

emaciated Excessively thin

emaciation The state of being extremely thin or in a wasted condition

EMB agar See Part 2: Intestinal Microorganisms; Microorganism, Media

embryo 1) Of a seed, the germ, or sporophyte, located at one end of the endosperm; 2) Of an animal, a fetus See Part 2: Wheat Grain; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

embryology The study of the development of the embryo

embush A sorghum of millet beer

emden See goose

emek A loaf-shaped, edam-type cheese

emergency feeding The feeding of individuals or groups of people who are cut off from their normal food supplies

emergency loans Loans made to farmers under emergency credit programs, usually for conditions resulting from drought, floods, or other natural disasters

Emerson YpSs agar See Part 2: Microorganism, Media

emesis Vomiting

emf See volt; electromotive force series

-emia A suffix meaning blood

emiliano A hard, dry, low-fat, grating cheese that is made from cow's milk and has a dark brown rind

émincé Thin-sliced beef

emjeo (kieserite) Magnesium sulfate ($MgSO_4$)

See Part 2: Fertilizer Materials

emmental A pressed, wheel-shaped, hard French cheese with large holes

emmentaler 1) A moist, cooked, smoked Swiss sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into a pork casing. 2) A semihard, smooth-textured Swiss cheese made from cow's milk and shaped into large wheels (80–100 kg); it has a mild to sharp nutty taste and large spherical holes and is called the grandfather of Swiss cheese See **Switzerland Swiss**

emmentaler cheese (emmental, emmenthal) A light yellow, semihard cheese made from cow's milk, similar to Swiss in texture (with large holes), color, and taste; it keeps well and is good for export. See also **Swiss cheese**

See Part 2: Cheese Characteristics; Cheese Composition

emmenthal (emmenthaler; gruyère) A mild cheese made from cow's milk, with rennet; it has a dark yellow rind and a sweetish nutty flavor and is aged 4 months; used in fondues See **emmentaler cheese**

emmersdorf See **limburger cheese**

emmer wheat See **wheat**

emollient A substance used to soften skin

em-pica A measure of length

1 em-pica = 0.4233 centimeter (cm)

= 0.167 inch (in.)

empire wine A wine containing 15–22% alcohol by volume See also **wine**

empirical formula A chemical formula that expresses the atoms in simplest ratio; it shows only composition, not structure: e.g., the empirical formula of both benzene and acetylene is CH

empty calories Refers to a food that furnishes only energy, e.g., sugar

empyreumatic Describes a smoky or tarlike odor

emrelettes Peeled seedless grapes that have been tinted green with crème de menthe

emu A sweet, cloudy white wine made from palm tree sap

emu dokon Steamed fermented rice balls

emulsification In cleaning, the mechanical action of breaking up fats and oils into small droplets and suspending them in a cleaning solution

emulsification power (bind-to-fat ratio) A measure of the amount of fat (in grams) emulsified per gram of protein

emulsifier A substance that prevents the separation of immiscible substances (e.g., oil and water) in an emulsion; helps to distribute evenly one substance in another; used to improve texture, homogeneity, consistency, and stability: e.g., monoglycerides, diglycerides, polysorbates, sorbitan monostearate, and lecithin *See emulsifying agent*

emulsify To suspend fine particles or globules of one substance in another

emulsifying agent (emulsifier, stabilizer) 1) A surface-active compound whose molecule is composed of a long-chain hydrocarbon terminating in a water-soluble group (OH or COOH), e.g., certain alcohols and fatty acids; when placed in a mixture of oil and water, the molecule orients itself with the water-soluble end in the water and the oil-soluble end in the oil, reducing the interfacial tension between the two liquids and enabling them to form a stable colloidal dispersion. Egg yolk, which contains lecithin, is used in making mayonnaise; other commonly used food emulsifying agents are albumin, agar, casein, gums, etc. 2) A substance that emulsifies by coating fat particles suspended in water, thus preventing them from cohering, e.g., albumin in milk, algin in ice cream *See also protective colloid*

emulsion A dispersion of oil or fat particles in water (or water in oil) obtained by use of either a surface-agent (detergent) or a protective colloid; the particles may be of colloidal dimension, as in mayonnaise, or much larger (fat particles in milk or hydrocarbon particles in rubber latex). For flavoring agents, emulsion means the mixture of flavor oils in water globules.

See Part 2: Margarine Production

enantiomer (enantiomorph) Either of the two forms (dextro- and levo-) of an optical isomer *See also optical isomer*

en brochette Broiled on a skewer

encapsulate To form a protective film around

encapsulation The process of coating particles (liquid or solid) with a partially impermeable layer to delay evaporation or chemical reactions

en carafe A beverage served in an open container (e.g., a pitcher)

enchilada A fried, soft, corn tortilla that is filled with spiced meat, vegetables, and/or cheese, rolled, and baked, covered with sauce (alternating layers of tortillas and a meat sauce)

end *See closure*

end- A prefix meaning within

Endamoeba histolytica Parasitic amoebae found in the intestines and liver of higher animals, causing amoebic dysentery and liver abscesses
See Part 2: Microorganism, Media

en daube A meat of seafood stew made with wine, vegetables, and herbs

endemic Native to an area or locality; a disease with a normally constant incidence in a population or area

endergonic Describes a reaction that absorbs or requires energy

endive (Brussels chicory; chicory; curly endive; escarole; salad chicory) A vegetable (*Cichorium endivia*) whose narrow, curled or plain, dark green to white leaves are used as food (cooked vegetable) or a salad green; a curled-leaf salad plant that is usually bitter until blanched; there is also a broadleaf variety (often marketed as escarole); endive is closely related to chicory. Witloof, or Belgian endive, is compact, cigar-shaped, and white (self-blanching). The term endive or French endive usually applies to witloof chicory. 19,500–27,000 seed/oz; seed $\frac{1}{2}$ oz/100-ft row; 6 in. apart in rows 15 in. apart; germination time 3–6 days; matures in 70 days.

Types:

Broadleaf (escarole)—broad, thick, smooth leaves with white midrib; loose head with blanched inner leaves

Narrow, curled, or curly—narrow, med. green, fringed, curly leaves; loose head

It is fresh if the head is tightly curled, the stem is soft, and the leaves are white with yellow tips. Endive

Endive variety	Head and leaves	Color	Center	Season
Broad Leaved Batavian (escarole)	16 in.; broadleaf (see text); mild flavor	White midrib	White	90 days
Deep Hart	Curled			85–90 days
Full Heart Batavian	Broadleaf; milk flavor (popular)			80 days
Green Curled (Giant Fringed Oyster; Green Ribbed)	16–18 in.; curled	Green	White	80–95 days
Ruffec	Curled	Green		85–90 days
Salad King	22–24 in. (popular)	Dark Green; white rib		80–98 days

is consumed raw, braised, sautéed, and stuffed and baked, and is used in salads, quiches, soups, and stews; usually served raw but may be braised until tender.

Available: raw; canned; frozen (freezing point 31.9°F)

1 small head = 4 cups, torn

1 serving = 0.3–0.5 med. head

Composition (raw): moisture 93%; protein 2%; fat 0.1%; carbohydrate 4%; ash 1%

Storage: 32°F; 90–95% relative humidity; covered with dark paper; use within 2–3 weeks.

See also **chicory**; **escarole**

See Part 2: Minerals, Food; Planting Density; Storage; Sugar, Vegetables; Vegetable Composition; Vegetable Planting Chart; Vegetable Plants

endo- A prefix meaning within, as in endosperm, endocrine, etc.

endo agar See Part 2: Microbiological Examination of Dairy Products; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

endo broth A broth for the detection of coliform and other enteric organisms; gram-positive organisms are inhibited by sodium sulfite and basic fuchsin.

See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

endocrine Of or relating to an endocrine gland, the endocrine system, or their secretions, which pass directly into the bloodstream or lymphatic system

endocrine gland A ductless organ that secretes hormones into the bloodstream or lymph

endocrinology The study of the function and structure of endocrine glands and of function of the hormones they secrete

endoenzyme An enzyme which acts in the cell that produced it

endogastritis An inflammation of stomach lining

endogenous Originating or arising from within the body concerned

endomysium Connective tissue separating the muscle fibers (myofiber), composed of thin basal lamina and associated reticular fibrils

endophyte A plant growing within another plant

endoplasmic reticulum The membrane system within the cytoplasm of a eucaryotic cell where energy activity is high and protein is synthesized

endosepsis (soft rot) An internal mold rot of the fig; the decay progresses from the cavity of the fig outward and is caused by the fungus *Fusarium moniliforme*, whose spores are carried by the fig wasp (*Blastophaga psenes*)

endosperm The large center (carbohydrate or starchy) portion of a cereal grain; containing gluten-forming proteins and starches (constitutes; e.g., 83% of wheat); the part of a seed that contains the plant's nutritive tissue

See Part 2: Corn Kernel; Corn Kernel Composition; Rice Kernel; Wheat, Fatty Acids; Wheat Grain; Wheat Kernel; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

endospore A resistant body formed within the cell of certain bacteria See **spore**

endotoxin A polysaccharide–protein–lipid material that is part of the gram-negative cell wall and is released upon death and autolysis of the cell; a toxin produced within and by the animal

endoxerosis (blossom-end decline; dry tip; internal decline; pink tip; tip deterioration; yellow tip) 1) An internal drying. 2) A physiological abnormality of lemons resulting in destruction of internal tissue, especially at the stylar end; affected tissue becomes pink-brown and a gummy substance is deposited next to the peel near the cavities. Affected fruit will float in water with the stylar end up. The disease develops only when lemons are on the tree and will not start or progress in storage.

end point (finish point) The moment during processing of a food product at which it has been cooked to the proper consistency for filling

endrin A poisonous chlorinated hydrocarbon insecticide that is an isomer of dieldrin; use may be prohibited on food crops

energy See Part 2: Food Guide

energy requirement The energy intake needed for an average healthy person in a specific category

energy value of food The heat given off by burning a stated weight of food; the Atwater system assigns values of 9 calories to fat, 4 calories to carbohydrates, and 4 calories to protein. See also **calorie**

See Part 2: Recommended Daily Dietary Allowance

enfer d'Arvier An Italian wine produced from petit rouge grapes

enferfer Dried and powered injera (a soft bread baked from teff) mixed with stew or butter, green peppers, and fried onions

engadine cheese A cheese made in Switzerland from whole milk, with rennet

engadiner A moist or semidry, cooked or uncooked, smoked or unsmoked Swiss sausage made from medium-seasoned beef and pork stuffed into beef or pork casing

English bamboo Pickled young shoots of the elder tree

English breakfast tea Any of several blends of strong black teas from China

English chop A double lamb chop cut across the saddle area; it is usually boned, wrapped around a section of the kidney, and skewered.

See Part 2: Lamb Cuts and Uses

English cut A beef cut made from the thin ends of the fourth and fifth ribs

See Part 2: Beef Cuts

English dairy cheese An aged, sharp-flavored type of cheddar

English medium hog casing A hog casing 35–38 mm in width

English sole (*Parophrys vetulus*) A type of flounder often obtained from the northeast Pacific; a finfish with white meat and light to moderate flavor See **sole**

English-style side of pork See **Wiltshire side**

English system A method of grading wool based on the number of hanks of yarn that can be produced from a pound of scoured wool

English wheat See **wheat**

enhancer A substance used to make greater, intensify, or heighten; as a substance added to a food to increase its flavor without contributing any taste of its own, e.g., monosodium glutamate

enjera See **injera**

ennoblement See **enrichment**

en papillote Baked or served in parchment or brown paper

en pension (American plan) Room price includes price of meals

enrich To replace vitamins and minerals lost during processing

enriched Describes a product that contains added nutrients that are naturally associated with a specific food; a product to which some of the nutrients lost in manufacturing have been restored

enriched rice Rice that is enriched with iron, thiamin, riboflavin, and niacin
See Part 2: Cereal Enrichment

enrichment (ennoblement) Bringing a food up to a specified nutritional standard by adding nutrients during manufacture; for example, rice is enriched with iron, thiamin, riboflavin, and niacin. Federal regulations for cereal require the following enrichment levels (relative to unenriched flour):

B vitamins

Thiamin—10 times

Riboflavin—8 times

Niacin—6 times

Iron—4 times

Calcium—optional

There are also federal standards for bread, buns, certain wheat flours, corn grits, cornmeal, farina, macaroni, noodle products, rice, and rolls. See also **fortification**

See Part 2: Cereal Enrichment

enrobe To dip a candy center into liquid chocolate or other coating mixture using a machine designed for this purpose

ensete flour A dried flour made from the fermented pseudostem of ensete or false banana

ensilage (silage) Anaerobically fermented (acid) green forage or fodder stored in a silo or trench

-enter- A syllable meaning intestine

enteric bacilli Rod-shaped microorganisms that infect the intestines

See Part 2: Microbiological Media

enteritis An inflammation of the intestine

enterococci Spherical microorganisms that infect the intestines

See Part 2: Microbiological Media

enterococcus agar See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods

enterocrinin A hormone that is found in the intestinal mucosa and that stimulates small intestine activity

Enterprise Seedless A variety of midsummer Florida orange

entire Of a leaf, having the margins free of indentations

entire wheat flour See **graham flour**

ento- See **endo-**

entomology The study of insects

entrails Guts; internal parts; viscera; usually refers to stomach and intestine

entrammes A semisoft cheese with medium flavor

entrecôte 1) Beef cut from between the ribs. 2) Beef sirloin

entrecôte Bercy Sirloin steak and sauce

entrecôte steak A 1-in. steak cut from between the ribs or from the sirloin

entrecuisse A poultry thigh

Entre Deux Mers A light, medium-sweet (some are dryer) white wine produced between the rivers Garonne and Dordogne in the Bordeaux region of southwestern France

entrée A dish that can be served before the main course, between courses, or may be the main course; appetizer; meat, fish, or poultry not classed as a roast; food other than a roast served as the main course; the main course of a light meal

entremés A Spanish hors d'oeuvre

entremets 1) A sweet course. 2) A side dish; anything in the second course except the roast

entropion A condition where either or both eyelids roll inward soon after birth, resulting in eventual blindness

environment All external influences, conditions, and surroundings affecting life or reactions

Environmental Protection Agency (EPA) The government agency that registers pesticides and administers the Federal Insecticide, Fungicide and Rodenticide Act as amended; the EPA requires that the intended use of a pesticide must be on the label or be covered by a Pesticide Policy Statement (PEPS) issued by the EPA

enzian A schnapps-type spirit with gentian

enzyme An organic thermolabile proteinlike catalyst for metabolic reactions, produced by living cells; may consist of protein in combination with a vitamin or mineral; enzymes can often be separated from the cell that produces them and still retain their activity. Enzymes in food can cause loss of food quality if they remain active during storage; often destroyed by canning or blanching

See Part 2: Enzymes, Food Industry; pH Values of Biological Materials

enzyme-linked immunosorbent assay (ELISA; double antibody sandwich technique) A technique used to measure antigens or antibodies, e.g., the following procedure:

1. An antigen (e.g., virus) is immobilized in wells on a plastic plate.

276 enzyme-linked immunosorbent assay

2. A specific antibody is added and it forms a complex with the antigen.
3. A second antibody produced against the initial antibody is added
4. The enzyme horseradish peroxidase or alkaline phosphatase is covalently linked to the second antibody.
5. Reagents are added that produce a color due to enzymatic action.

eosin methylene-blue agar See Part 2: Intestinal Microorganisms; Microbiological Examination of Dairy Products

EP Edible portion

EPA (Environmental Protection Agency) See Environmental Protection Agency

epautre (German wheat) A coarse grain used for macaroni

epazote (pigweed) A green leafy herb used in Southwestern cooking

epi- A prefix meaning upon or exterior, e.g., epidermis

epiblast (ectoderm) The outer layer of the gastrula or blastoderm

See Part 2: Wheat Kernel; Wheat Kernel Parts

epicarp (exocarp) The outer layer of the pericarp
See Part 2: Orange Structure; Rice Kernel; Wheat Kernel Parts

épice Spice

Epichloe typhina See *Acremonium coenophialum*

epicure A connoisseur of fine foods, wines, and liquors; a discriminating diner; a gourmet

epidemic The sudden occurrence of a large number of cases of an infectious disease

epidermis The thin, outer, pigmented layer of the skin; the outer layer of cells

See Part 2: Corn Kernel; Hide, Layers; Hide, Salt Absorption; Wheat Kernel Parts

epididymis The elongated body or tube that receives sperm from the testicle and transports, concentrates, stores, and controls the maturation of the sperm

epigramme 1) Sliced lamb breast. 2) A lamb cutlet

epimysium The connective tissue surrounding an entire muscle

epinephrine A drug that is extracted from the inner portion (medulla) of the adrenal glands of cattle, hogs, and sheep and can be used for shrinking mucous membranes, as a heart stimulant, and a muscle relaxant; also made synthetically; also sold as a product with the trademark Adrenalin

epiphysis A rounded (usually an articulating surface) end of a bone

epithelial Refers to the outermost cells of the skin or other membrane

epithelium The cellular tissue covering a surface or lining a cavity See also **epidermis**
See Part 2: Wheat Kernel Parts

epitsi See **apitsi**

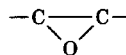
E-plate Electrolytically coated tinplate

epulchage The sorting of picked grapes

epoisse A soft, fresh, mold-inoculated, munster-type French cheese (uncut curd) made from cow's milk, (skimmed or whole) with rennet, flavored with herbs

epoxy can coating A coating that has high heat stability, lacks discoloration at the side seam, and is free from off flavor; cross-linking (converters) is used to harden, e.g., amines and polyamides or phenolic-urea and melamine

epoxy group An organic group in which an oxygen atom lies outside the carbon chain:

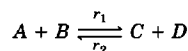


epsilon (E, ε) Greek letter with an English equivalent of ě

epsom salts Magnesium sulfate ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$); named from Epsom, England
See Part 2: Fertilizer Materials

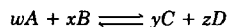
equation A formula and symbols that represent, e.g., a chemical reaction

equilibrium A state of balance between reactants and products in a chemical reaction:



At equilibrium $r_1 = r_2$ (r = rate of reaction); amounts of A , B , C , and D remain constant

equilibrium constant (K_{eq}) For the reaction



$$K_{eq} = \frac{(C)^y \times (D)^z}{(A)^w \times (B)^x}$$

Capital letters represent quantities in moles per liter.

equilibrium relative humidity (ERH) The amount of water vapor in the headspace of a container at a given temperature

equine Pertaining to horses

equine encephalitis A group of diseases of the horse that cause nervous disturbances and mortality and can also infect humans; spread by mosquitoes; immunization is available.

equestration The skills involved in riding a horse

equity The net value of property after all debts are deducted

equivalent Equal; corresponding; same

See Part 2: Fruit and Vegetables, Cost Per Serving

equivalent weight The molecular weight of a compound divided by the valence of its positive ions or radicals or by the value for the change in valence in oxidation-reduction reactions; the weight of an element that will combine with one-half the atomic weight of oxygen (7.9997 g); also called combining weight

See Part 2: Equivalent Weights

Er Symbol for the element erbium

erbium (Er) A rare-earth element of the lanthanide series; at. no. 68; at. wt. 167.27; Group IIIB of the Periodic Table; oxidation state +3; electron configuration 2-8-18-30-8-2 orbit K L M N O P

erce A semihard cheese made from cow's milk, with a full, fruity flavor

ercolini A provolone-type cheese made from cow's milk

eremite A blue cheese made from cow's milk

erepsin An enzyme (mixture of peptidases) that is secreted into the small intestine and converts polypeptides into amino acids

See Part 2: pH Values of Biological Materials

erg A measure of work and energy

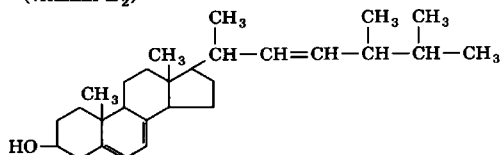
- 1 erg = 1 dyne-centimeter (dyn-cm)
- = 1.020×10^{-3} gram-centimeter (g-cm)
- = 1×10^{-7} joule (J)
- = 7.3756×10^{-8} foot-pound (ft-lb)
- = 2.3889×10^{-8} gram-calories (g-cal; mean)
- = 1.020×10^{-8} kilogram per meter (kg/m)
- = 9.4805×10^{-11} British thermal unit (Btu; mean)
- = 2.773×10^{-11} watt-hour (W-h)
- = 2.3889×10^{-11} kilogram calories (kg-Cal; mean)
- = 3.7250×10^{-14} horsepower-hour (hp-h)
- = 2.773×10^{-14} kilowatt-hour (kW-h)

-erg- A syllable meaning work

ergo Yogurt

ergocalciferol (vitamin D₂) Calciferol

ergosterol (C₂₈H₄₃OH) A steroid alcohol that, on irradiation with ultraviolet light, yields calciferol (vitamin D₂)



See Part 2: Vitamins

ergot 1) A fungus (*Claviceps purpurea*) that grows on grasses; a fungal disease of wheat that makes consumption hazardous to humans and animals; a fungal disease of rye and other cereals where the grain is replaced by long, hard, hornlike, dark-colored bodies that makes consumption hazardous See also **rye**. 2) In horses, a horny growth behind the fetlock joint

erg per second (erg/s) A measure of power, rate of energy transfer, and heat

- 1 ergs
- = 1 dyne-centimeter per second (dyn-cm/s)
- = 1.433 kilogram-calorie per minute (kg-Cal/min)
- = 4.4254×10^{-6} foot-pound per minute (ft-lb/min)
- = 1×10^{-7} watt (W)
- = 0.0000000737612 foot-pound per second (ft-lb/s)
- = 5.688×10^{-9} British thermal unit per minute (Btu/min)

- = 1.34×10^{-10} horsepower (hp)
- = 1×10^{-10} kilowatt (kW)

ERH See **equilibrium relative humidity**

eriwani (elisavetpolen; karab; kasach; tali kurini) A salted Russian cheese of the Caucasus, made from ewe's milk See **karab**; **kurini cheese**; **tamales**

Erlenmeyer flask A flat-bottomed glass container that gradually tapers to a narrow mouth; used in chemical laboratories

error of first kind (α) Rejection of a hypothesis that is true

error of second kind (β) Accepting a hypothesis that is not true

erucic acid See **docosenoic acid**

eructation Belching air and gas from the stomach; a belch

ervy A soft, camembert-like cheese made from whole cow's milk with rennet See **troyes**

ervy-le-châtel A short, cone-shaped, camembert-type cheese made from cow's milk and cured 4-6 weeks

Erwinia A genus of vegetable pathogens related to coliform

See Part 2: Rot Spoilage; Spoilage, Carbohydrate Foods

erythorbate An isomer of ascorbate See **ascorbate**; **ascorbic acid**

erythorbic acid (isoascorbic acid) An antioxidant that accelerates color fixing in meat and is used as a preservative

Storage: tight, light-resistant container

See **ascorbic acid**

erythro- A prefix meaning red

erythrocyte A red blood cell, which contains hemoglobin See also **red blood cell**

erythromycin An antibiotic; used in poultry to increase feed efficiency and egg production

See Part 2: Antibiotic Standards

erythroplastid See **erythrocyte**

erythrose See Part 2: Sugar, D-Aldehyde

ES See **Extension Service**

Es Symbol for the element einsteinium

-es A Latin suffix that indicates plural

esbareich A cylindrical (1-4 kg), semisoft to semi-hard cheese made from sheep's milk (sometimes mixed with cow's or goat's milk), with small holes and a tangy flavor, sometimes lightly smoked

escabèche Pickled meat or pickled fish; a small fish hors d'oeuvre

escallop See **scallop**

escalopes Thin pieces of meat

escarchado An aniseed-flavored herb liqueur that contains sugar crystals

escargot A snail

Varieties: garden snail (*Helix aspersa*); vineyard snail (*H. pomatia*)

escarole (broad-leaved endive; escarol; escarolle; *Chicoree scarole*; *Cichorium intybus*) A salad

green with large, ruffled, bitter leaves that are dark green, edging into yellow; it resembles chicory but the leaves are broader and less curly. Endive produces in its second year a seedstalk that resembles wild chicory and is often called escarole. *See* **chicory**; **endive**

See Part 2: Minerals, Food; Sugar, Vegetables

escarole soup Available as a ready-to-eat canned soup

Composition (ready-to-serve): moisture 96.9%; protein 0.6%; fat 0.7%; carbohydrate 0.7%; fiber 0.3%; ash 1.0%

Escherichia A genus of gram-negative, rod-shaped, usually nonpathogenic, bacteria found in the intestines of animals and humans

See Part 2: Microorganism Reactions on Differential Tube Media; Spoilage, Carbohydrate Foods

Escherichia coli A common intestinal bacterium; some strains are pathogenic

escoveitched fish Pickled fish

escovitch Pickled meat or pickled fish

esophagus (oesophagus) The gullet, or food pipe; the alimentary tract between the mouth (pharynx) and the stomach

espanole A brown sauce *See* **brown sauce**

espalier 1) To train plants to grow on a flat surface and pruning to confine growth to one plane. 2) The trellis or lattice on which trees or shrubs are trained to grow in a flattened form

esparto A coarse grass of northern Africa from which a wax is obtained; it is also used for specialty papers. *See* Part 2: Wax

espresso coffee Coffee made by forcing steam under pressure through powdered coffee

espresso roast (Italian roast) A procedure for roasting coffee that produces a black-brown bean that shines with coffee oil; the coffee has a penetrating, robust flavor

espumante A white sparkling wine

esrom A yellow, rich, mild, tilsit-type cheese

essang seed oil An unsaturated fatty acid found in essang seeds
See Part 2: Unsaturated Fatty Acids

essence (extract) 1) The natural, concentrated cooking juice of food, used for flavoring. 2) A flavoring agent obtained by distillation. 3) Extracted (by maceration or distillation) and bottled, essential flavors

essential 1) A distilled flower product in which the "essence" of the flower is evidenced by the fragrant odor *See also* **essential oil**. 2) A dietary factor that must be obtained from external sources, as it is not synthesized by bodily metabolism *See also* **essential amino acid**; **essential fatty acid**

essential amino acid An amino acid that is not synthesized in sufficient quantities within the body, namely, leucine, isoleucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine; these are nutritionally essential and must be furnished in the diet. Histidine and arginine are also essential amino acids for the rat and chick.

essential element An element that is essential for human nutrition: bromine, calcium, chlorine, cobalt, copper, fluorine, iodine, iron, magnesium, manganese, phosphorus, potassium, sodium, sulphur, and zinc

essential fatty acid A fatty acid required for good nutrition that must be present in the diet, as it is not produced within the body, e.g., linoleic and linolenic acids

essential nutrients Includes essential elements and both organic and inorganic compounds that the body requires but does not synthesize in sufficient amounts for its need

essential oil (volatile oil) A fragrant and inflammable volatile oily liquid derived from the flowers, stems, or leaves of plants by steam distillation, dry distillation, or vacuum distillation, or expressed or extracted with solvents (alcohol or ether but not water); insoluble in water; volatile oils removed from a spice by distillation usually have the taste and smell of the original plant because they retain the characteristic odor or flavoring factors in biological materials. Essential oils are not glycerol esters and have no relationship to edible oils; they are normally not used with products that will be heat processed because essential oils are readily vaporized at high temperatures. They are used as the basis of perfumes and flavors.

Usually contain:

Constituents responsible for aroma

Most of constituents responsible for flavor

Do not contain:

Nonvolatile flavor constituents

Pungent constituents

See Part 2: Essential Oils

Essex (Essex Half-Black; White-Shouldered) A large-framed breed of English swine, similar to the Wessex Saddleback, that are black with white belt around the front shoulders

established price *See* **target price**

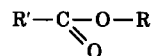
establishment Premises that have been approved and registered by a controlling authority

establishment number A USDA-granted number on the inspection stamp that identifies the plant

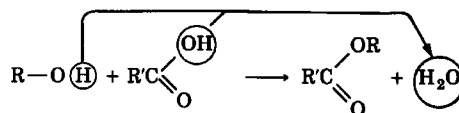
estate bottled Indicates that a wine has been bottled by the vineyard, i.e., the winery was involved with growing, crushing, and fermenting the grapes and ageing and bottling the wine

estepo A Swiss cheese made from cow's milk

ester



An organic compound formed by reacting an alcohol with an acid, a molecule of water being removed in the reaction:



Esters are responsible for part of the bouquet of mature wines.

esterase An enzyme that attacks simple esters

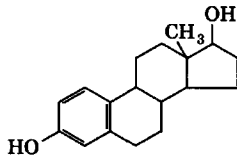
esterencuby See *ardi-gasna*

esterification The chemical reaction between an alcohol and an acid to produce an ester

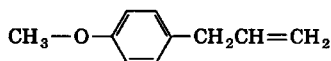
est-est-est A clear or white, dry or semisweet, light wine, produced in the region of Rome

estonsky An edam-type cheese

estradiol A female sex hormone produced by the ovaries



estragole



Used as an aniselike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

estragon See *tarragon*

estrella (oropesa; queso de la estrella) A golden, hard, pressed cheese made from sheep's milk rubbed with olive oil

estrogen (oestrogen) A female sex hormone, isolated from bovine ovaries, that is used in treatment of menopausal syndromes

estrogenic agents Substances that improve growth performance and carcass characteristics

estrous cycle The time between one period of ovulation and the next

estrus (period of heat) The recurrent, restricted period of sexual receptivity in females; the time when a female will readily breed

estuary An arm of the sea at the end of a river, sometimes including bays or areas where tide is found

eta (H, η) Greek letter with an English equivalent of ē

etaerio (eterio) An aggregate fruit composed of archenes, berries, druples, follicles, or samaras, as in the mulberry

See Part 2: Fruit Classification

et al. *Et alii* (and others)

etc. *Et cetera* (and so forth)

etch To treat a substance with an acid, usually to form a design

etchum A type of dawadawa

ethane (C₂H₆) A flammable, odorless gas derived from petroleum

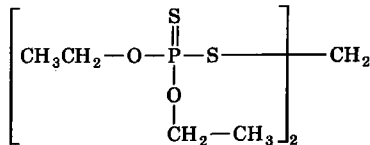
See Part 2: Refrigerant

ethanol See *ethyl alcohol*

ether (R'—O—R) A class of organic compounds in which two alkyl groups are attached to an oxygen atom See also *ethyl ether*

ether extract See *fat analysis*

ethion A poisonous pesticide; a cholinesterase inhibitor; a phosphorus ester



Ethiopian harr(i)ar A pungent, delicately aromatic, spicy flavored, African coffee

ethology The study of behavior

ethoxylated diglyceride Made by reacting diglyceride with ethylene oxide to produce a hydrophilic emulsifier; used as a dough conditioner, in coffee whiteners, and in whipped toppings

ethoxylated monoglyceride and diglyceride (polyglycerate-60) Used as a dough conditioner

Storage: well-closed container

ethoxylated mono-diglyceride Made by reacting monoglyceride with ethylene oxide to produce a hydrophilic emulsifier; used as a dough conditioner, in coffee whiteners, and in whipped toppings

ethoxyquin (6-ethoxy-1,2-dihydro-2,2,4-trimethylquinoline) An effective antioxidant; used as an herbicide

Storage: tight container in a cool, dark place

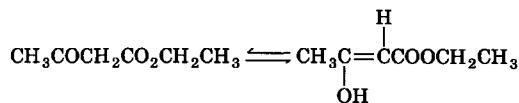
See Part 2: Antioxidant Structure

ethyl acetate (CH₃COOCH₂CH₃) Used as a synthetic flavoring agent in food; also found naturally in some foods

Storage: tight container in a cool place

See *acetic ether*

ethyl acetoacetate



Used as a flavoring agent in food

Storage: tight, light-resistant container

ethyl acrylate (CH₂=CHCOOC₂H₅) Used as a fruitlike flavoring agent in food

ethyl alcohol



A flammable liquid used as a solvent or beverage (e.g., found in wine, beer and liquor), or vehicle; a noncumulative poison; commercial grade is 95% (92.3% by wt.; 94.9% by vol.); often called ethanol or simply alcohol; sp. gr. 0.798 at 60°F; bp 78.5°C; heat value 7 calories per gram. A person with 0.08–0.15% concentration in blood is considered "under the influence."

Anhydrous (dry) form—200 proof; 85,000 Btu/gal
95% alcohol—190 proof

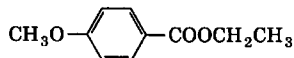
280 ethyl alcohol

100 lb corn = 5.3 gal, 80–85% alcohol
= 4.3 gal, 97% alcohol

Storage: tight container, away from fire

See Part 2: Alcoholic Solutions; Antioxidant Mixtures;
Fluid and Fermented Milks, Composition

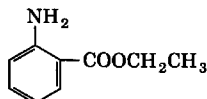
ethyl anisate (ethyl *p*-methoxybenzoate)



Used as a fruity, aniselike flavoring agent in food

Storage: full, tight, glass container in a dark, cool place

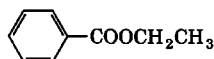
ethyl anthranilate (ethyl aminobenzoate)



Used as a floral, orange-blossom-like flavoring agent
in food; sp. gr. 1.113–1.120

Storage: full, tight container in a cool, dark place

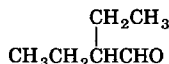
ethyl benzoate



Used as a fruitlike flavoring agent in food; sp. gr.
1.042–1.046

Storage: full, tight, glass container in cool, dark place

2-ethylbutyraldehyde



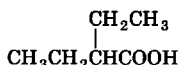
Used as a pungent flavoring agent in food; sp. gr.
0.808–0.815

Storage: tight container

ethyl butyrate [$\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2\text{CH}_3$] Used as a
fruitlike flavoring agent in food; sp. gr. 0.870–0.878

Storage: full, tight glass container in a cool, dark place

ethylbutyric acid



Used as a flavoring agent in food; sp. gr. 0.870–0.878
Storage: tight container

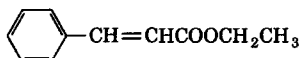
ethyl caprylate See **ethyl octanoate**

ethylcellulose An ethyl ester of cellulose; used in
food as a protective coating, binder, or filler
Storage: well-closed container

ethyl chloride ($\text{C}_2\text{H}_5\text{Cl}$) A flammable gas (liquid
when compressed)

See Part 2: Refrigerant

ethyl cinnamate (ethyl 3-phenylpropenoate)



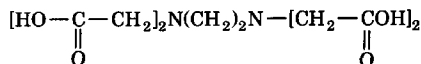
Used as a cinnamon-like flavoring agent in food; sp.
gr. 1.558–1.560

Storage: tight, light-resistant container

ethylene ($\text{CH}_2=\text{CH}_2$) A flammable gas used in
ripening some fruit, such as lemons, oranges, toma-
toes, bananas, dates, and persimmons (the gas de-
stroys the chlorophyll so that the other pigments may
become visible); also used a refrigerant

See Part 2: Refrigerant

**ethylenediaminetetraacetic acid (EDTA; editic
acid)**



A food antioxidant used in dressings, margarine, and
sauces See **EDTA**

ethylene dibromide (EDB) A fumigant that has
been shown to be carcinogenic

ethylene dichloride (dichloroethane) [$(\text{CH}_2)_2\text{Cl}_2$]
A toxic flammable liquid used as a food extraction
solvent and fumigant; sp. gr. 1.245–1.255

Storage: tight container

See Part 2: Fumigants

ethylene oxide [$(\text{CH}_2)_2\text{O}$] A toxic flammable gas used
for the sterilization of food, particularly spices; max.
residual 50 ppm; bp 10°C; often mixed with 90–95%
carbon dioxide, which makes it less susceptible to
explosion

See Part 2: Fumigants

ethyl ether ($\text{CH}_3\text{CH}_2-\text{O}-\text{CH}_2\text{CH}_3$) A flammable
liquid sometimes used as a general anesthetic and
extraction solvent; dangerous!; $d_4^{25} = 0.708$; bp
34.6°C

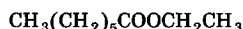
Test for peroxide in ether:

1. Shake, for 1 h, 10 ml ether with 1 ml aqueous
potassium iodide (1:10).
2. Protect from light.
3. When viewed transversely against a white back-
ground, no color should be seen in either layer.

ethyl formate (HCOOC_2H_5) A flammable liquid used
as a fumigant and flavoring agent; sp. gr. 0.916–0.920
Storage: full, tight glass container in a cool, dark place

See Part 2: Fumigants

ethyl heptanoate (ethyl heptate)



Used as a fruity, winelike flavoring agent in food; sp.
gr. 0.866–0.872

Storage: full, tight glass container in a cool, dark place

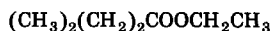
ethyl hexanoate (ethyl caproate; ethyl capronate)
[$\text{CH}_3(\text{CH}_2)_4\text{COOCH}_2\text{CH}_3$] Used as a fruitlike flavor-
ing agent in food; sp. gr. 0.866–0.870

Storage: glass, light-resistant container

ethylidene chloride (CH_3CHCl_2) A flammable liq-
uid used as a fumigant and refrigerant

See Part 2: Refrigerant

ethyl isovalerate



Used as a fruitlike flavoring agent in food; sp. gr. 0.862–0.866

Storage: full, tight container in a cool, dark place

ethyl lactate (ethyl 2-hydroxypropionate)



Used as a flavoring agent in food; sp. gr. 1.030–1.032

Storage: tight, light-resistant container

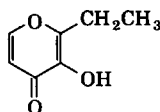
ethyl laurate (ethyl dodecanoate)



Used as a fruity, floral-like flavoring agent in food; sp. gr. 0.858–0.864

Storage: tight, glass container in a cool, dark place

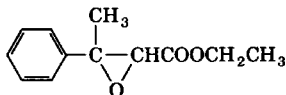
ethyl maltol



A flavor- and aroma-enhancing agent that is found naturally in some foods; used as a sweet, fruitlike flavoring agent in food

Storage: tight container

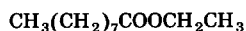
ethyl methyl phenylglycidate



Used as a fruitlike flavoring agent in food; sp. gr. 1.086–1.112

Storage: full, tight, glass container in a cool, dark place

ethyl nonanoate (ethyl pelargonate)



Used as a fruity, fatlike flavoring agent in food; sp. gr. 0.862–0.868

Storage: full, tight container in a cool, dark place

ethyl octanoate (ethyl caprylate; ethyl octoate) [$\text{CH}_3(\text{CH}_2)_6\text{COOCH}_2\text{CH}_3$] Used as a fruity, floral-like flavoring agent in food; sp. gr. 0.864–0.870

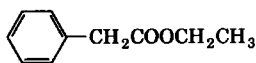
Storage: tight, glass container in a cool, dark place

ethyl oxyhydrate (rum ether) Used as a rumlike flavoring agent in food

Storage: tight container

ethyl pelargonate See **ethyl nonanoate**

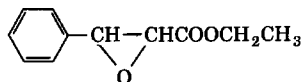
ethyl phenylacetate



Used as a sweet flavoring agent in food; sp. gr. 1.026–1.032

Storage: tight, glass container in a cool, dry, dark place

ethyl phenylglycidate



Used as a strawberry-like flavoring agent in food; sp. gr. 1.120–1.126

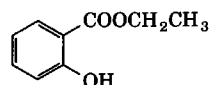
Storage: tight, glass container in a cool, dark place

ethyl 3-phenylpropenoate See **ethyl cinnamate**

ethyl propionate ($\text{CH}_3\text{CH}_2\text{COOCH}_2\text{CH}_3$) Used as a fruity, rumlike flavoring agent in food; sp. gr. 0.886–0.890

Storage: full, tight container in a cool, dark place

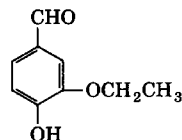
ethyl salicylate



Used as a wintergreen-like flavoring agent in food; sp. gr. 1.126–1.130

Storage: full, tight, glass container in a cool, dark place

ethyl vanillin (3-ethoxy-4-hydroxybenzaldehyde)



Used as a vanilla-like flavoring agent in food

Storage: tight, light-resistant container

ethyl violet azide broth See Part 2: Microbiological Media; Microorganism, Culture Media, Water and Sewage, Standard Methods

etiology The study of the causation of disease

etivaz A very hard cheese made from cow's milk

etna A wine produced in Sicily

Types:

Red—robust, ruby-colored, dry

White—dry, well balanced

ETP Electrolytic tin plate

et seq. *Et sequens* (and the following)

etsew A fermented sourdough dumpling made with maize and cassava

ettaler A yellow or green herb liqueur

etuku A steamed cassava bread

Eu Symbol for the element europium

eu- A prefix meaning good, well, or beneficial

eucalyptus leaf A leaf used as an herb and for tea

eucalyptus oil (dinkum oil) A colorless or pale yellow, volatile essential oil steam-distilled from the leaves of the eucalyptus tree (*Eucalyptus globulus*); used as a pungent, spicy flavoring agent in food

Storage: full, tight container in a cool, dark place

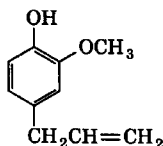
See Part 2: Essential oils

eucaryotic Describes microorganisms that have a well-defined nuclear membrane, chromosomes, and exhibit mitotic cell division

euda A ripened cheese made from low-fat or skimmed milk

Composition: moisture 56–57%; protein 30%; fat 6–7%; carbohydrate 1–2%; salt 2.6%

eugenol



Used as a spicy, clove-like flavoring agent in food; sp. gr. 1.064–1.071

Storage: full, tight container in a cool, dark place

euglena agar See Part 2: Microorganism, Media

Eugon agar See Part 2: Microbiological Media; Microorganism, Media

eulachon smelt See smelt

eupepsia Good digestion

Euphausiacea See krill

Euromart The European Economic Community (EEC)

European corn borer (*Ostrinia nubilalis*) An insect that bores through the stalk of corn at any spot
Control: destroy stalks and plow under

European Development Fund (EDF) Created by the European Economic Community to aid former colonies (Fonds Européen de Développement, Communautés Européennes, rue de la Loi 200, B1049 Brussels, Belgium)

European Economic Community (EEC) A federation of European countries organized to promote economic growth and trade; member countries are: Belgium, Denmark, France, Great Britain, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, and Germany

European fruit lecanium (*Lecanium corni*) A pest of the pear; convex ($\frac{1}{8}$ – $\frac{3}{8}$ in.) and brown; feeds on limbs and leaves and produces honeydew on which black fungus then grows

European plan No meals included in room rate

European red mite (*Panonychus ulmi*) A pest of the pear; the adult is velvety red and very convex; it damages foliage, which is bronze in appearance, and it interferes with normal fruit development.

European wheat stem sawfly (*Cephus pygmaeus*) An insect that attacks wheat

euporium (Eu) A rare-earth element of the lanthanide series; at. no. 63; at. wt. 152.0; oxidation states +2, +3; Group IIIB of the Periodic Table; electron configuration 2–8–18–25–8–2 orbit K L M N O P

eutectic plate (cold plate) A portable plate that contains a solution; they are frozen and used to maintain temporary refrigeration temperatures in containers

eutrophication 1) The nutrient enrichment of water. 2) A process that causes a lake to fill with solid waste. 3) A process that supports algae bloom

EVA (ethyl violet azide) broth A broth used for detection, enumeration, and confirmation of enterococci, which is an index of pollution; other organisms are inhibited by sodium azide and ethyl violet.

See Part 2: Microorganism, Media

evaporated Describes a product from which water has been removed by evaporation, e.g., evaporated skimmed milk (final composition): moisture 79–80%; protein 7–8%; milk fat 0.2–0.3%; total milk solids min. 15%; carbohydrate 11–12%; fiber 0%; ash 1.5–1.6%; See **evaporated milk**

evaporated food Food that has been dried by artificial heat

evaporated milk Produced from whole milk by reducing the volume 40–50% by evaporating (under vacuum) the water; concentrated milk that has 2.25 times the solids content as whole milk. Raw whole milk is clarified, concentrated (60% water removed), fortified with vitamin D, homogenized placed in a can, and sterilized (245°F for 15 min). Condensed milk is usually made from evaporated milk (usually skimmed) that is sweetened. Undiluted evaporated (whole) milk can be whipped if chilled to 40°F (or ice crystals around edges)

$\frac{2}{3}$ cup, unwhipped = 2 cups, whipped

It is usually diluted with an equal volume of water for use as milk:

$\frac{1}{2}$ cup evaporated milk + $\frac{1}{2}$ cup water = 1 cup milk

1 lb evaporated milk (whole) = 2.1–2.4 lb milk

= $3\frac{3}{4}$ cups milk

one $14\frac{1}{2}$ -oz can

= $1\frac{1}{3}$ – $1\frac{2}{3}$ cups

= 3 cups milk

1 cup evaporated milk, whole

= 250 g (8.9 oz)

1 cup evaporated milk, skimmed

= 8.9–9 oz

6 oz = $\frac{2}{3}$ cup

Composition	Evaporated milk	
	Skimmed	Whole
Moisture (%)	79.4	73.5–74.5
Protein (%)	7.5	6.6–7.0
Fat (%)	0.2	7.6–7.9
Total milk solids (%)	15	25.9
Carbohydrate (%)	11.3	9.5–10.5
Fiber (%)	0	0
Ash (%)	1.5	1.4–1.6

Specific gravity 1.066

pH = 5.9–6.3

Max. 0.1%

Disodium phosphate

Sodium citrate

Calcium chloride

Min. 25 USP units of vitamin D per fluid ounce

$\frac{1}{2}$ cup evaporated milk, whole = 170 calories

Sodium 266–294 mg/cup (255 g)

Sold in $13\frac{1}{2}$ -oz “tall” cans and 6-oz “baby” cans

Storage (unopened): room temperature (below 70°F); use within 6 months.

Storage (opened): as for fresh milk, refrigerate, covered; use within 5 days

See also sweetened condensed milk

evaporation Conversion of a liquid to a vapor; this occurs at room temperature or lower, but is usually done by heating. The vapor becomes steam at 100°C
See Part 2: Dairy Terms; Milk and Cheese, Composition; Milk and Milk Products, Vitamin Content; Milk Composition; Milk, Concentrated Products; Minerals, Food; Stabilizers, Thickeners; Storage Times; Vitamin A, Milk and Milk Products

evening primrose A biennial plant whose roots are used like parsnips

everbearing Describes a plant that bears two or more crops in a single growing season

eviscerate To remove the entrails

eviscerated Describes a carcass from which all organs were removed from the great cavity of the body

evisceration The removal of viscera (entrails and organs)

evora A very hard cheese made from goat's or sheep's milk

ewe A female ovine animal (sheep) of any age; average gestation period 147 days (range 142–157); duration of heat 1–3 days; normal recurrence of heat 15–21 days

See Part 2: Milk, Mammals, Composition; Milk, Species; Sheep Market Classes and Grades; Teeth Eruption

ewe neck A depression at the top of the neck forward of the withers

ewule bolo Steamed, fermented balls of rice

ex- A prefix meaning out or away from

exanthema A copper deficiency disease of citrus fruit that is distinguished by dark brown, glossy spots on the fruit and gum pockets in the albedo of the thick-skinned fruit

excelsior 1) A soft, milk, high-fat (72%) cheese that is made from cow's milk and humid-cured for 2–3 weeks, the surface becoming covered with white mold.
2) Wood shavings used for packing

excess calorie intake The overconsumption of calories

exchange bread A food that contains approximately 15 g carbohydrate, 2 g protein, and 68 calories

exchange fat A food that contains approximately 5 g fat and 45 calories

exchange for physical (EFP) A simultaneous transaction between two traders wherein one trader buys physicals and sells futures contracts, and the opposite trader sell physicals and buys futures contracts; prices for EFP transactions are mutually agreed upon by the two parties involved.

exchange fruit A food that contains approximately 10 g carbohydrate and 40 calories

exchange meat A food that contains approximately 7 g protein, 5 g fat, and 73 calories

exchange milk A food that contains approximately 12 g carbohydrate, 8 g protein, 10 g fat, and 170 calories

excreta The products (e.g., feces and urine) of excretion

excretion The removal of waste

ex dock The buyer takes title to the goods only when they are unloaded on the buyer's dock

exercise Purchasers of options have the right to request a long futures position in the case of a call, or the right to request a short futures position in the case of a put, under the terms and conditions of the option held.

exergonic Describes a reaction in which energy is released

ex factory The buyer takes title to the goods when they leave the vendor's dock

ex-light steer hide A steer hide weighing less than 48 lb.

Exmoor Horn A hill breed of British sheep

exo- A prefix meaning outside

exocoetus A flying fish that is used for food

exoenzyme An enzyme that acts outside of the cell that produced it

exogenous Describes something arising or originating outside the body of organism concerned

exogenous brown discoloration *See brown rot*

exogenous growth hormone A compound that improves growth performance and carcass characteristics

exotoxin A soluble protein poison secreted by living cells; a toxic substance produced by another organism and introduced to an organism that did not produce it

expanded Describes feed that has been exposed to moisture (which gelatinizes the starch), temperature, and pressure and then to an abrupt reduction in pressure, causing the volume to increase

expectorant A substance that loosens phlegm or induces the ejection of mucus or fluid from lungs or trachea

expediting "Rushing" purchase orders that are needed in less than the normal lead time

expeller process Mechanically extracts oil from products by using a screw press

experiment A controlled test or trial performed to discover something unknown (e.g., a substance or an effect) or to test a principle

expiration date 1) The date on which an option will cease to exist. 2) The final date (do not use after) you should eat or use food; the date after which a product cannot be sold and should not be used

expire (abandon) The term for what happens to an option when, at expiration, it has no value; because the cost is finite to the purchaser, an option (unlike a two-sided contract) can be abandoned by the purchaser and does not have to be closed out. It can expire without value, in which case the purchaser would have lost the purchase price.

explorateur A disk-shaped, small- to medium-sized (250–350 g) excelsior-type cheese

export 1) Describes a strong, alcoholic beer. 2) Describes goods, services, and products that are sold to buyers in foreign countries; a commodity conveyed (traded) from one area to another

See Part 2: Casings, Hog Bungs

export certificates Certificates available to producers participating in the wheat and feed grain programs; they are redeemable for cash when the grain shown on the certificate has been exported.

export enhancement program Provides government subsidies to increase the volume of agricultural exports

export PIK An export subsidy that is to be given only to countries in which competing exporting countries are also using export subsidies See **payment-in-kind**

export restitution payment A payment made to an EEC exporter to enable the exporter to compete on the world market

export sales reporting A program that requires that export sales in one day involving more than 100,000 metric tons of major grains and oilseeds be reported within 24 hours; for other commodities, weekly reports are required.

export subsidy (restitution) A government grant that is made to a private enterprise to facilitate exports

expressed oil A vegetable oil obtained by pressing in a hydraulic press or expeller

exsanguinate To cause blood to flow from; to deprive of blood

extender A diluent added to adjust physical condition; a diluent that will expand the quantity of food

extensibility The ease or degree of extension (stretch)

Extension Service (ES) See **Science and Education Administration**

extensor A muscle that extends (straightens) a joint

external Outside; an outer part

external abdominal oblique An outside sheet of muscles of the flank whose fibers point down and backward

extra- A prefix meaning outside

extract (flavoring) An alcohol or alcohol-water solution containing a flavoring (e.g., aromatic oil, essence, imitation, or essential oil) ingredient; less potent than essential oils. The following are examples: allspice; almond; anise; apple; caraway; celery seed; cinnamon; cherry; clove; ginger; lemon; nutmeg; onion; orange; peppermint; pineapple; pistachio; raspberry; rose; savory; spearmint; strawberry; sweet basil; sweet marjoram; thyme; tonka; vanilla; wintergreen. Natural juices and minerals are also used as

flavoring (e.g., meat extract, yeast extract). Also, a flavoring obtained by evaporation or concentration of an active principle

extractable color (extractible color) The amount of color a product will distribute to a medium (e.g., this determines strength of paprika); a measure of the color a spice will give to a liquid. Determined as follows: The material is usually diluted with acetone; this extracts the oleoresin that contains the coloring agent, which is then tested on a spectrometer.

extracted honey Honey that has been separated from the comb by centrifugal force

extracted, mechanically (expeller extracted; hydraulically extracted; old process) Fat or oil that has been removed by heat or mechanical pressure

extracted, solvent (new process) Fat or oil that has been removed by an organic solvent

extraction The removal of soluble components from a substance or mixture by use of a solvent, e.g., water (coffee), alcohol, ether, acetone, etc.

extra-dry vermouth A very dry, clear wine with a trace of herbs in its flavor

extra gras crème Contains a minimum of 45% fat

extra-narrow hog casing A hog casing with a diameter of 29 mm or less

extraneous matter Of a spice, the amount of non-spice material (dirt, stones, burlap fibers, etc.) found in the spice, which determines cleanliness

extra-wide hog casing A hog casing with a diameter of 43 mm or greater

extrawurst A moist, cooked, smoked or unsmoked Austrian sausage made from finely chopped, mildly seasoned (with nitrite) beef and pork stuffed into beef or artificial casings with diameter greater than 40 mm

extremity An end or termination

extruded Describes material that has been pressed, pushed, or protruded through an orifice or die under pressure

exudative Losing fluid, or dripping

eye 1) The bud of a tuber; e.g., potato. 2) Holes (pin-sized to $\frac{3}{8}$ in.) in cheese, produced by gas formed during fermentation. 3) A compact muscle, usually embedded in fat, e.g., rib eye, loin eye, or eye of round

eye muscle The longissimus dorsi muscle

eye of round (eye of silverside; semitendinosus) A small, triangular muscle of the round See also **semitendinosus**

See Part 2: Beef, Boneless Cuts; Beef Round Cuts; Meat Identification

eye-spotted bud moth An insect; the adult is gray with light beige bands on the forewings; the larva is brown with a black head and is up to $\frac{1}{2}$ in. long. The larvae eat buds, blossoms, and leaves and spin webs.

eyran See **airan**

ezerjo A dry white wine

F Symbol for the element fluorine

F₁ Offspring of parental generation (P₁)

F₂ Offspring of crossing F₁

faba See **broad bean**

fabriama See **fra-fra**

fabricated cuts Boned or partially boned meat cuts made from primal cuts

fabricated steak An uncooked, unsmoked American sausage made from coarsely chopped to chunked and ground tissue that is then restructured, pressed, formed, molded, or sliced

F.A.C. Fat Analysis Committee

FAC albicans See Part 2: Microorganism, Media

face 1) To remove a slice from a piece of meat that has become dark. 2) The outside of a container lid

factor 1) One of two (or more) numbers that yield a given product when multiplied together, e.g., 2 and 4 are factors of 8; 3, 4 and 6, and 2 are factors of 12. 2) In biochemistry, an active nutrient substance See also **filtrate factor**; **folic acid**

factorial (1n; n!) A number multiplied by each number lower than itself until 1 is reached, e.g., 7 factorial is

$$7! = 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 5040$$

It can be estimated by Stirling's approximation formula:

$$1n = n^n \cdot e^{-n} \cdot \sqrt{2\pi n} \cdot \left(1 + \frac{1}{12n} + \frac{1}{288n^2} + \dots\right)$$

The value in parentheses is practically unity for large values of *n*.

factor, prime Numbers that are divisible only by themselves and 1, and that yield a given quantity when multiplied together, e.g., the prime factors of 45 are 5 × 3 × 3.

factory end (bottom; can manufacturer's end) The can container end (usually the bottom) that is placed on the can body by the manufacturer

factory-end seam See **bottom seam**

facultative Possibly but not essentially (e.g., facultative aerobes and facultative anaerobes)

facultative aerobe An organism that is fundamentally aerobic but can grow or even thrive in the absence of oxygen

facultative anaerobe An organism that is anaerobic but can grow in the presence of oxygen, e.g., bacteria that can grow with or without oxygen

FAD Flavine adenine dinucleotide

faggot A moist, cooked, unsmoked British sausage made from medium- or coarse-chopped, mild- or medium-seasoned pork not stuffed into a casing; sage-seasoned pork, liver, kidney and onions; a cooked, smoked sausage that is made from beef, veal, and pork cured with salt, nitrite, and sugar and is linked in 6-in. long pairs in sheep or hog casings See **fagot**

faggot of herbs (bouquet garni) Sprigs of spices tied together, e.g., bay leaves, parsley, and thyme

fagot (faggot) Pork that is cooked and then mixed with ground livers, hearts, and onions; this is made into a ball, covered with caul fat, and baked with bundle of thyme, marjoram, and bay leaf; also called savory ducks See **faggot**

Fahrenheit (F) A measure of temperature:

Freezing point of water 32°F

Boiling point of water 212°F at 760 mm Hg

Absolute zero -459.6°F

Normal body temperature 98.6°F

Conversion formulae:

$$^{\circ}\text{F} = \frac{9}{5}^{\circ}\text{C} + 32$$

$$^{\circ}\text{C} = \frac{(^{\circ}\text{F} - 32)}{9}$$

$$^{\circ}\text{F} = \left(\frac{^{\circ}\text{R}}{4}\right) + 32$$

$$\text{Rankine} = ^{\circ}\text{F} + 459.67$$

$$^{\circ}\text{R} = \frac{(^{\circ}\text{F} - 32)}{9}$$

$^{\circ}\text{C}$ = Celsius, or centigrade

$^{\circ}\text{R}$ = Reaumur

See Part 2: Temperature

fair average quality See **FAQ**

Fair Packaging and Labeling Act (1966) Requires that consumer products moving in interstate commerce be honestly and informatively labeled, so that any shopper may easily determine the best value

fairy-ring champignon (*Marasmius oreades*) A small, brown to pink, edible fungus that creates the "fairy-rings" in short grass

fajy See **biza**

falernum A sweet liqueur with a low alcohol content, flavored with lime and ginger

fall armyworm (*Spodoptera frugiperda*) A worm that feeds on young leaves, ears of the corn plant, and sorghum; also attacks wheat See also **armyworm**

fall cankerworm (*Alsophila pomataria*) A worm that feeds on pear leaves

fall cure A lightly salted, pickle-cured cod (contains 45–48% moisture)

fallfish Chub

fall salmon See salmon
See Part 2: Salmon and Trout

false cabbage aphid See turnip aphid

false chinch bug A grayish brown, narrow-bodied ($\frac{3}{8}$ -in. long) insect that usually congregates in masses; its feeding causes beets to wilt and die in a short time.

false fire blight See pseudomonas blight

false hellebore A plant having a poisonous principle
See Part 2: Poisonous Plants

false morels An irregular to saddle-shaped, wrinkled-capped, central stalk fungus

false rib (asternal) A rib whose cartilage is attached to the cartilage of the rib in front of it See also rib

false seam The double seam of a can where a part of the body hook and lid hook are not interlocked

false smut A rice disease caused by a fungus (*Ustilaginoidea virens*); it rarely causes much damage, so no control measures are warranted.

falukorv A moist, cooked, smoked or unsmoked Norwegian sausage made from medium-chopped, mildly seasoned beef and pork stuffed into an artificial casing; a moist, cooked, smoked Swedish sausage made from finely chopped beef and pork stuffed into an artificial casing

Composition: moisture 65% max.; fat 23% max.; binder 3% max.

Fameuse (snow) A variety of apple that is good for eating, baking, sauces, and pies

family A group of animals with a common ancestor

family budget survey A survey concerned with family income and expenditure, including all the different foods and drinks purchased or otherwise obtained

family contracts The practice of grouping families of similar parts together on one purchase order to obtain pricing advantages and a continuous inbound materials flow

family farm A farm for which a family provides most of the labor, management decisions, and operating capital; the land may be owned, partly owned, or rented

famine An extreme shortage of food affecting large numbers of people

fan Rice

fancy sausage Usually an uncooked, dry or semidry sausage

fan-kot See kudzu

fanning A small-sized green tea

fantasia A moist, cooked, unsmoked Argentinean sausage made from finely ground, mildly seasoned beef, pork, and veal (with split dried green peas, wheat flour, and white wine) cooked in molds lined with pork skins

fanti kenkey An acidic maize dumpling

FAO Food and Agricultural Organization See Food and Agricultural Organization

FAO/WHO Food Standards-Codex Alimentarius Commission A cooperative effort by the Food

and Agricultural Organization (FAO) and the World Health Organization (WHO) to develop international standards for the food industry

FAQ (fair average quality) Fair average quality of the season at time and place of shipment

farad (F) A unit of capacitance [1 C (coulomb) charging a capacitor to 1 V (volt)]

1 F = 1×10^6 microfarad

faraday (F) An electrical measurement

1 faraday

= 96,500 coulombs (C; the amount of electricity required to deposit 1 g equivalent weight in electrolysis)

= 26.8 ampere-hours (A-h)

See Part 2: Constants, Fundamental

faraday per second

1 faraday per second = 9.65×10^4 amperes (A)

farce Stuffing; to fill with mingled ingredients

faremorrr A heavily smoked salami made from mildly seasoned beef, lamb, pork, and sometimes horsemeat; a dry, uncooked, smoked Norwegian sausage made from medium-chopped, medium-seasoned beef, lamb, pork, and horsemeat, with plucks and blood added; it is fermented and stuffed into a beef casing.

farepolse A dry, uncooked, heavily smoked Norwegian sausage made from medium-chopped, mildly seasoned beef, lamb, goat, and horsemeat fermented and stuffed into an artificial casing; a heavily smoked salami made from mildly seasoned beef, goat, pork, and often horsemeat

faresnabb (chub) A dry, uncooked, smoked Norwegian sausage made from medium-chopped, medium-seasoned beef, pork, lamb, and horsemeat, with plucks added; it is fermented and stuffed into artificial casings.

farfals A mixture of wheat flour and water (sometimes also milk and eggs) that has been dried and then ground

farina 1) Wheat (durum not used) in granular form from which the bran and most of the germ have been removed; the granules are hard particles of gluten, which is the part of hard wheats known as middlings; wheat middlings ground to flourlike size; can be cooked as a breakfast dish. 2) The gluten part of hard wheats other than durum; known as purified middlings. 3) A fine potato powder used for thickening. 4) Starch obtained from vegetables (e.g., beans, peas, or potatoes) and used in cereal and pasta products
Nutrients added to enriched types:

Thiamine 2–2.5 mg/lb

Riboflavin 1.2–1.5 mg/lb

Niacin or niacinamide 16–20 mg/lb

Iron 13 mg/lb

Equivalents:

$\frac{3}{4}$ cup quick-cooking farina, cooked
= 80 calories

1 cup, cooked = 8.4–8.6 oz

= 1 oz, dry

1 cup, dry = 6–6.1 oz

See macaroni; potato starch

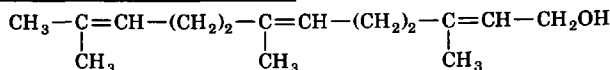
See Part 2: Cereal Composition; Cereal Enrichment; Food, Composition; Grain Products, Composition

farina dolce Chestnut flour

farina, light A breakfast food made from the endosperm of wheat

farine A type of gari that is short-fermented or unfermented

farinha A flour or meal made from bitter cassava tubers



farinha de mandioca A type of gari

farinha seca White, toasted gari

farm Defined as \$1000 in gross sales of farm products per year

farm acreage base The total of crop acreage bases on the farm, including all crop acreage bases plus the average acres planted to soybeans and the average acreage devoted to conservation

Farm Credit Administration The federal agency that supervises the farm credit system

farm credit system The financial system that includes the federal land banks, the federal intermediate credit banks, production credit associations, and banks for cooperatives

farmer Similar to holsteiner (a coarsely chopped cervelat) except that it is made in straight lengths

farmer cervelat (farmer cervelat) A semidry, cured, delicately seasoned sausage made of coarsely chopped pork and beef

farmer cheese A cottage cheese made from cow's milk

Farmer-Owned Reserve (FOR) A program of loans for wheat and feed grains that is intended to stabilize prices and hold reserves for times of short production

farmer sausage A mild, coarse-chopped, smoked, uncooked, semidry sausage; a semidry or dry, cooked or uncooked, smoked American cervelat-type (farmer cervelat) sausage made from medium- or coarse-chopped, mildly seasoned (no garlic) beef (65%) and pork (35%), fermented and stuffed into beef or artificial casings; available in links, rings, or large-diameter casings. *See holsteiner*

farmer's cheese (pressed cheese; pot cheese) A soft, white, dry cottage cheese pressed into packages; it is made from partly skimmed milk and has a mild flavor.

Farmers Home Administration (FmHA) The agency that is authorized to make direct loans to farmers who cannot obtain credit from other sources; it may also guarantee loans made by banks.

farmer-style hog carcass A hog carcass split on both sides of the backbone

farmer summer sausage A dry, cooked, heavily smoked American sausage made from medium-chopped, mildly seasoned beef and pork (mostly beef, with some pork), fermented and stuffed into beef or artificial casings

farmhouse cheddar A cheddar-type cheese made on farms in England

farm management The science and art of combining land, labor, and capital to establish and run farming operations

farm marketing quota *See marketing quota*

farm program payment yield *See program yield*

farnesol A naturally occurring flavoring agent

farniha puba Brown, toasted gari

faro 1) A strong, sour, alcoholic beer made by long fermentation of wheat with a maturation period. 2) A blend of 1 kilogram of sugar candy and 5 liters of beer

farrow To give birth to pigs

farrowing index The number of litters produced by an animal per year

farrowing interval The average time between one farrowing and the next

farrowing rate The number of animals farrowing, given as a percentage of animals served

FAS *See free along side*

FAS broth A medium used in the enrichment serology method for detecting *Salmonella* in foods and feeds

See Part 2: Microorganism, Media

fascingskrappen A doughnut made from wheat flour and filled with apricot jam

fascia A covering of connective tissue that supports and protects internal organs of the body

fasciated Describes an abnormal stem where plants have joined together or flattened

fascicle A small bundle of fibers; a muscle bundle

fasciculus A bundle of endomysially bound myofibers

faseekh A small, strongly salted fish (*Barbus* spp. and *Hestos* spp.) used for seasoning

faseich Strong, salted fish used for seasoning

faseole A small, green bean similar to the haricot

fast To abstain from eating

fast food service As the name indicates this is a restaurant that serves food quickly; in the past, it has centered around a short order counter (drug store soda fountain, luncheonette, or snack bar) where the customer sat on a stool or remained standing, or a self-service service such as a cafeteria or buffet; currently, the concept applies to feeding establishments that fall into the following categories: utilization of time-saving equipment, utilization of labor-saving equipment, or utilization of self-service devices or methods.

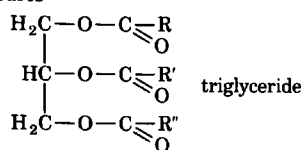
fastidium Disgust with food or eating

fasting Abstaining from all food; the voluntary abstinence from food

fat (adipose tissue; fatty tissue; lipid) An ester of glycerol and a fatty acid; a fat is solid at 18–25°C (64–77°F), and is called an oil if it is liquid at these

288 fat (adipose tissue; fatty tissue; lipid)

temperatures



Natural fat is a mixture of various glycerides; its physiological value is 9 calories per gram, which makes it a concentrated source of energy (i.e., calories). In addition to supplying the body with energy, fats carry the fat-soluble vitamins (A, D, E, and K); they also make up part of the structure of the cell, provide a protective cushion for vital organs, they spare proteins (let the body function with less proteins) and supply essential fatty acids (e.g., linoleic acid). Fats are lighter than water and are poor conductors of heat.

1 tbsp lard, tallow, butter, or mayonnaise
= 2 tbsp 40% whipping cream
= 4 tbsp coffee cream

1 gal = 7.5 lb

2 cups = 1 lb

2 tbsp = 1 oz

Sources:

Plants	Animals
Most Saturated	
Olive	Beef
Peanut	Mutton
Sesame	Pork
Corn	Herring
Sunflower	Salmon
Safflower	
Most unsaturated	

The daily requirement for females (23–50 yr old) is 85 g/day. It is recommended that 30% or less of total caloric intake for adults be from fat. Coefficient of digestibility is 90–95% for different foods.

Functions: energy storage; integral part of cell membranes; supply essential fatty acids (3 g linoleic and linolenic acids)

Storage: Refrigerate, tightly covered; protect from light; use within 2 weeks.

See Part 2: Bananas, Composition; Beans, Peas, and Nuts; Cereal, Nutrient Content; Cheese Composition; Cherry Composition; Composition of Food; Concentrated and Dried Milk Products; Connective Tissue, Composition; Corn Kernel Composition; Creams, Butter, and Frozen Desserts; Cultured Dairy Products, Composition; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fat and Body Weight; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fats and Oils, Characteristics; Fish and Shellfish, Composition; Flour, Extraction Rates; Fluid and Fermented Milks, Composition; Food, Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Lemon Juice, Composition; Lime Juice, Composition; Macaroni and Noodles, Composition; Manure Analysis; Meat and Meat Products, Composition; Meat Composition; Meat, Nutritive Value; Melting Points, Fats and Oils; Milk and Cheese, Composition; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Prod-

ucts; Milk, Dry Products; Milk, Mammals, Composition; Milk, Species; Minerals (Trace), Limits; Oil Meals, Composition; Oil or Fat, Characteristics; Oils and Fats, Composition; Oil, Seeds and Fruit; Organ Weights; Packinghouse By-Products Composition; Plant Foods, Composition; Pork Carcass, Retail Yield; Poultry Composition; Pulses, Nuts, and Seeds, Composition; Refractive Indices, Fats and Oils; Sausage Composition; Seed, Chemical Composition; Seed Composition; Soups, Composition; Soybean Composition; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Starches and Starchy Roots, Composition; Sugars and Sweets, Composition; Sugars and Syrups, Composition; Sweet Potato, Nutritive Value; Titer, Fats and Oils; Tomato and Tomato Products, Composition; Turkey Composition; Vegetable Composition; Wheat and Flour, Composition; Wheat, Fatty Acids; Wheat, Parts of Grain; Wheat Products, Composition

fat analysis (crude fat) Determination of fat content by extracting the dried sample with anhydrous ethyl ether or petroleum ether; the loss in sample weight or residue after solvent evaporation is reported as fat.

fatback The layer of fat over the loin of a hog (10% skin)

fat bloom A white crystalline coating resulting from separation of the fat in chocolate, which rises to the surface

fat drippings Fat that is rendered during the cooking of one food and used as fat or oil in cooking another food

Storage: refrigerate; cover tightly and protect from light; use within 2 weeks.

fate fate A thick, porridge gruel made from sorghum or millet

fat end The fat animals in a group

fat-end middle Natural casings used in the meat trade; from the last part of the large intestine of beef

fat fish Fish that are more than 5% fat, e.g., Eel, herring, lake trout, mackerel, pompano, rainbow trout, salmon, tuna, and whitefish

fat-free mass (FFM)

Body mass = ether-extractable fat + FFM

Fat-free mass = (total body water)/0.732
= (total body Potassium)/68.1

See lean-body mass

fat hen See orache

fathom A measurement of length or depth

1 fathom = 2 yards (yd)
= 1.829 meters (m)
= 6 feet (ft)

fatigue A condition that results in loss of ability to respond to a stimulus

fat-liquoring Adding a fat or oil (e.g., neat's-foot oil) to damp leather to keep it from becoming hard and dry

fat, saturated A fat containing fatty acids with only single bonds; usually a solid fat

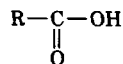
fat-soluble A nonpolar substance that is easily soluble in fat or a fat solvent (e.g., ether) and generally not soluble in water

fat-soluble vitamins Vitamins A, D, E, and K

fat stability The hours required for a fat to reach a specific peroxide value under a given set of conditions, which include aeration of the sample at an elevated temperature

fat steaming See **sweat**

fatty acid



An aliphatic acid occurring in both plants and animals; it may be saturated or unsaturated, the molecule being comprised of a chain of alkyl groups of varying lengths ending in a carboxyl group. Many are derived from glycerides by hydrolysis; used as lubricants, binders, defoaming agents, and emulsifiers in foods. See also **glyceride**

See Part 2: Beans, Peas, and Nuts; Fatty Acids; Milk, Fatty Acids, Seasonal; Olives and Pickles, Composition; Poultry Composition; Sausage Composition; Soups, Composition; Sugars and Sweets, Composition; Unsaturated Fatty Acids; Vegetable Composition; Wheat, Fatty Acids

fatty acid, essential A fatty acid that must be supplied in the diet

Linoleic (18-carbon, 2 double bonds)

Linolenic (18-carbon, 3 double bonds)—can be synthesized from linoleic acid; required only if linoleic acid is absent

Arachidonic (20-carbon, 4 double bonds)

fatty oil An extractable, nonvolatile oil

fat, unsaturated A fat containing one or more unsaturated (double or triple bonds) fatty acids; usually a soft fat

fauna The animal life of an area

fava See **broad bean**

fayesh A wheat crispbread made with a yogurt starter

FC broth base See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

FDA Food and Drug Administration. See **Food and Drug Administration**

FD & C blue No. 1 (food, drug, and cosmetic color)
A synthetic food additive used to color food

FD & C color (food, drug, and cosmetic colors)

The following are permanently listed:

Blue No. 1

Orange B—used in sausage casings, citrus

Red No. 2—used on orange skin

Red No. 3

Red No. 40

Yellow No. 5

See **colorant**

See Part 2: Colors Permanently Listed

FD & C orange B (food, drug, and cosmetic color)

This color is no longer approved by the FDA for use in food.

FD & C red No. 2 (food, drug, and cosmetic color)

This color is no longer approved by the FDA for use in food.

FD & C red No. 3 (food, drug, and cosmetic color)

A synthetic food additive used to color food

FD & C red No. 40 (food, drug, and cosmetic color)

A synthetic food additive used to color food

FD & C yellow No. 5 (tartrazine; food, drug, and cosmetic color) A synthetic food additive used to color food; some people are allergic to this color

FDD Food and Drug Directorate

F-distribution (z-distribution) Frequency distribution of the ratio of two variance estimates, $F = s_1^2/s_2^2$; the F -distribution has two numbers for its degrees of freedom, which are the degrees of freedom of the respective variance estimates: The first refers to the numerator (s_1^2) and the second to the denominator (s_2^2).

See Part 2: F -distribution

Fe Symbol for the element iron

feather 1) A proteinaceous process elaborated by birds; the units grow out from skin follicles, analogously to mammalian hair. The chief protein component is keratin. 2) Long hair at the rear of the cannons and ankles of a horse (horse feathers). 3) See **sharp seam**

feather bone A superior spinous process or flat process on the vertebrae in the thoracic region

See Part 2: Beef Chuck; Beef Rib Nomenclature; Beef Wholesale Cuts; Bone; Lamb Wholesale Cuts; Meat Identification; Pork Wholesale Cuts; Veal Wholesale Cuts

feather geranium See **ambrosia**

feathering Intercostal fat; the presence of fat streaks between the ribs

feathery mottle When internal cork, chlorotic leafspot, and yellow dwarf viruses act together in the sweet potato

febr- A prefix meaning fever

febrifuge Something that reduces fever; a substance used to reduce fever

feces The waste material discharged from the intestinal tract; (indigestible residue)

Fechner-Weber law The strength of the sensory process is proportional to the logarithm of the stimulus

fecula A very fine starchlike (usually manioc or yam) or flourlike (usually potato) powder obtained from vegetables (e.g., cassava) and used for thickening

fedelini Narrow, ribbonlike pasta. See **spaghetti**

Federal Crop Insurance A voluntary insurance program available to farmers under which the government pays approximately 30%

Federal Insecticide, Fungicide, and Rodenticide Act Governs use of pesticides and states that it is unlawful for any person to use any registered pesticide in a manner inconsistent with its labeling. See **Environmental Protection Agency**

federal land bank See **farm credit system**

federal marketing orders and agreements See **marketing orders and agreements**

290 Federal Register method

Federal Register method A method of analysis published in the *Federal Register* and later incorporated into the Code of Federal Regulations

Federal Reserve Board See **monetary policy**

feed 1) The food that is consumed by domestic animals; food for animals. 2) The amount or quantity of food given at one particular time

feedback inhibition The inhibition of an enzyme in a pathway by a product of that pathway

feed-cattle grades Fancy, choice, good, medium, cull

feed efficiency (feed conversion) The ratio of the feed required to produce one unit of production

feeders Cattle that are of the proper size to be put on a fattening ration before slaughter; animals with sufficient size to go into a feedlot

feed flavor A flavor in milk and cottage cheese that is caused by the cow's consuming weeds or weed seeds

feed grade Feed suitable for animals but not for humans

feed grain (coarse grain) Those grains most commonly used for livestock or poultry feed, e.g., barley, corn, grain sorghum, and oats

feeding See **nourishment**

feeding limestone A good source of dietary calcium; contains almost no magnesium

feeding tankage See **meat meal tankage**

feed leg The portion of a hydrostatic retort prior to the pressure section

feet The plural of foot. 1) A distance See **foot**. 2) The hooves of animals

feet-column of water A measure of pressure

- 1 foot-column of water
 - = 304.8 kilograms per square meter (kg/m²)
 - = 62.426 pounds per square foot (lb/ft²; also psf)
 - = 22.4185 millimeters of mercury (mm Hg; 13.59593 sp. gr.)
 - = 0.88262 inch of mercury (in. Hg; 13.59593 sp. gr.)
 - = 0.43353 pound per square inch (lb/in.²; also psi)
 - = 0.30480 meter of water (max. density at 4°C, 39°F)
 - = 0.03048 kilogram per square centimeter (kg/cm²)
 - = 0.0299 bar
 - = 0.02950 atmosphere, standard (760 mm Hg)

feet fallen from rest

Feet fallen from rest = (seconds)² × 16.08

feet per 100 feet A measure of grade

1 foot per 100 feet = 1% grade

feet per minute (ft/min; fpm) A measure of velocity

- 1 ft/min
 - = 0.508 centimeter per second (cm/s)
 - = 0.305 meter per minute (m/min)
 - = 0.018288 kilometer per hour (km/h)
 - = 0.017 foot per second (ft/s)
 - = 0.011364 mile per hour (mi/h; also mph)

feet per second (ft/s; fps) A measure of velocity

- 1 ft/s
 - = 18.29 meter per minute (m/min)
 - = 1.09728 kilometer per hour (km/h)
 - = 0.68182 mile per hour (mi/h; also mph)
 - = 0.59209 knot (U.S.)
 - = 0.30480 meter per second (m/s; also mps)
 - = 0.01136 mile per minute (mi/min)

foot per second per second (ft/s²) A measure of acceleration

- 1 ft/s²
 - = 30.48 centimeters per second per second (cm/s²)
 - = 1.097 kilometers per hour per second (km/h-s)
 - = 0.68182 mile per hour per second (mi/h-s; also mph-s)
 - = 0.30480 meter per second per second (m/s²)

Fehling's solution A test reagent consisting of two solutions; one contains 173 g sodium potassium tartrate and 50 g sodium hydroxide diluted to 500 ml with water; the other solution contains 34.6 g copper sulfate diluted to 500 ml with water; mix prior to use (NaKC₄H₂O₆); on reacting with a reducing sugar, it yields cuprous oxide [Cu₂O (dark red)].

feijoa (*Feijoa sellowiana*) A warm-temperature compact shrub that produces edible flowers and fruit that can be eaten fresh or made into a firm jelly
Variety: Collidge

feldspar Any of various Anhydrous silicates of alumina; used as component of fertilizers and poultry feed

fell A membrane (connective tissue) between muscle and the skin of an animal; sometimes removed prior to cooking, but does not affect flavor

felluccine A pasta

felt A fabric made from short wool (also hair or fur) that is pounded together while the wool is hot and moist; has less strength than woolen fabric and is used for insulation

felvagott A moist, cooked, smoked Hungarian sausage made from medium-chopped, medium-seasoned, beef and pork stuffed into beef or artificial casings

female The sex that produces the ovum See also **sex**

femoral artery An artery located in the rear legs and used to distribute the curing pickle when artery-curing hams

femorotibial See Part 2: Bone

femto- A prefix meaning one quadrillionth (10⁻¹⁵, or 0.000000000000001)

femur The bone from the pelvis to the knee; the rear leg (thigh) bone
See Part 2: Bone

fenarull A salami made from coarsely chopped beef and lamb; a dry, uncooked, smoked Norwegian sausage made from coarsely chopped, medium-seasoned beef and lamb fermented and stuffed into an artificial casing

fenbendazole A drug used as a wormer

fence post treatment Chemical solutions used:

1. Coal-tar creosote (100% or can be mixed with 50% kerosene or fuel oil)
2. 5% solution of pentachlorophenol (very toxic)
3. 5% solution of copper naphthenate

Methods in order of preference:

1. Pressure
2. Hot and cold bath
3. Cold soaking

fen chiu A beverage with a high alcohol content

fender rail A rail placed around the wall of a farrowing pen to keep the sow from mashing her pigs

fenelar Dried and smoked mutton

Fengjuichow A breed of white, black, or black and white pig from Fukien Province, China

fennel (Marathon) (Called sweet anise but not related to anise) The ripened fruit from a number of plants. A 5-ft perennial grown as an annual plant; it produces a flattened, oblong-ovoid, green to brown seed ($\frac{1}{8}$ – $\frac{1}{4}$ in. long) with yellow ridges; sweet fennel or bitter fennel is used in seasoning (has a warm, sweet odor and tastes somewhat like anise); the leaves are used as a salad or cooked vegetable and in sauces, soups, and salad dressings; oil from the seed is used in confectionery, condiments, pickles, and liquor; the seeds are used whole or crushed. The plant looks like celery with fernlike tops.

European (*Foeniculum vulgare* syn. *officinale*)
—grown for seed

Florence fennel [fenocchio (*F. vulgare* var. *dulce*)]
—the bulbous leaf base, separates into licorice-flavored stalks

Parts used:

Bulbous root—used like celery

Leaves—used for garnishing, flavoring (aniseed or licorice), and in salads

Seed—available cracked or coarse to medium grind

Stems and leaves (or base of leaves)—may be cooked as vegetables

Stems (of some types)—eaten uncooked, or cooked and used like asparagus or celery

Types

Sweet or Roman (anise flavor)

Wild (bitter flavor)

Terms:

Dark fennel—tan to brown

Light fennel—greenish yellow

Composition (seed): moisture 8–9% (8.5% max.); protein 14–16%; fat 14–15%; carbohydrate 52–53%; fiber 15–16%; ash 8–9% (9% max.); HCl-insoluble ash 2% max.; volatile oil 1.25–1.4%

Storage (seed): cool, dark, dry place

See also **Florence fennel** (not the same plant)

See Part 2: Essential Oils; Flavoring Agents, Natural; Planting Density

fennel flower (*Nigella sativa*) Black cumin, not related to fennel See **nigella**

fennel oil A volatile oil obtained from the dried fruit of *Foeniculum vulgare*; sp. gr. 0.952–0.974; used as a fennel-like flavoring agent in food

Storage: full, tight container in a cool, dark place

fennel, sea See **samphire**

fenny A liqueur flavored with coconut and cashew

fenouillet (*Fenouillet gris*; *F. gros*; *F. rouge*) A pear with an aniseed flavor

fenugreek (Greek hay; *Trigonella foenumgraecum*) A legume whose leaves (bitter) and seeds are used as food

Young sprouts—have the flavor of curry

$\frac{1}{2}$ -in. sprout—a crisp vegetable used for salads, soups, and in some curries

Sprouts, 3–6 days old—used fresh or cooked

Seeds—used in some curries

fenugreek seed (*Trigonella foenumgraecum* L.)

A small, reddish brown seed that grows in a pod of a plant of the pea family; the fresh plant is eaten as a vegetable; the seeds are used as one of the constituents of artificial maple flavoring and are used in curry powder.

Composition (medium grind): moisture 6–9% (6% max.); protein 15–23.5%; fat 6–7%; carbohydrate 58–59%; fiber 10–11%; ash 3–4%

fera (*Coregonus ferus*) A freshwater fish similar to salmon and trout

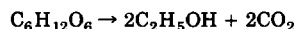
fermentability The capability to be fermented by yeast; the total fermentability is approximately equivalent to the following:

The content of monosaccharides, disaccharides, and trisaccharides

Dextrose equivalent

The quantity of low-molecular-weight sugars (e.g., glucose, fructose, and maltose)

fermentation 1) Decomposition of sugar to two molecules of carbon dioxide and two of alcohol (yields 14%), catalyzed by bacteria or enzymes:



2) The anaerobic decomposition of an organic compound in which the final hydrogen acceptor is an organic compound. 3) The conversion of sugar to acetic and lactic acids; foods preserved in this way include, e.g., acidified cheese, acidified milk, alcoholic beverages, olives, peppers, pickled cucumbers, sauerkraut, and vinegar. 4) Processes in which fat, sugars, and starches are broken down by enzymes, bacteria, or yeast (e.g., in beer, cheese, and yogurt)

See Part 2: pH, Post-Mortem; Fermented Ingredients

fermented egg Made by coating a whole (duck's or hen's) egg in salt and ash paste and covering with rice hulls; the egg protein coagulates and hardens, which preserves the egg; usually cooked before consuming

fermented rice See **arroz fermentado**

fermented vinegar Vinegar made by fermentation without distillation (solids 2% min., ash 0.25% min.)

fermier Made on the farm

fermière, à la With discs of carrots, potatoes, celery, onions, cabbage, and turnips

fermium (Fm) A synthetic radioactive element of the actinide series; Group VIIB of the Periodic Table; at. no. 100; mass number of most stable isotope 255; electron configuration 2–8–18–32–30–8–2 orbit K L M N O P Q

292 fernet branca

fernet branca An Italian (40% alcohol) bitters used to flavor alcoholic beverages; a very bitter aperitif wine with a high alcohol content

fern shoots (bracken; fiddlehead) The soft tip of young fern shoots

ferric Iron in highest valence state: Fe^{+3}

ferric chloride (FeCl_3) A coagulant and sludge conditioner; toxic, and corrosive even to stainless steel

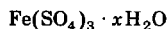
ferric hydroxide [$\text{Fe}(\text{OH})_3$] The flock former resulting from the use of ferric iron coagulants in sewage treatment; insoluble at all pHs encountered in water and waste treatment

ferric phosphate (ferric orthophosphate; iron phosphate) ($\text{FePO}_4 \cdot x\text{H}_2\text{O}$) Used as an iron nutrient additive in food or a dietary supplement
Storage: well-closed container

ferric pyrophosphate [$\text{Fe}_2(\text{P}_2\text{O}_7)_3 \cdot x\text{H}_2\text{O}$] Used as a nutrient additive in food or a dietary supplement
Storage: well-closed container

ferric sodium pyrophosphate Used to enrich food

ferric sulfate (Ferri-Floc)



A coagulant and sludge conditioner

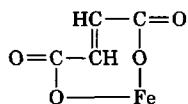
Ferri-Floc See **ferric sulfate**

Ferro-Therm The proprietary name of an insulating material

See Part 2: Insulation

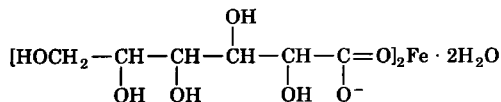
ferrous Iron in a lower valence state: Fe^{+2}

ferrous fumarate



Used as a nutrient additive in food, or a dietary supplement; a source of iron in food
Storage: well-closed container

ferrous gluconate



Used as a synthetic nutrient or dietary supplement (source of iron), as a flavoring agent, and as a yellow to gray coloring material (e.g., in black olives); causes gastrointestinal problems in some people
Storage: tight containers

ferrous sulfate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$) Used as a nutrient additive in food, as a dietary supplement, or as an iron supplement in food
Storage: tight container

fertile 1) Describes land capable of supporting good plant growth. 2) A seed that is able to germinate. 3) Able to reproduce

fertility The ability to reproduce

fertilization See **pollination**

fertilizer Any of a number of agricultural chemicals applied to the soil to increase its fertility and productivity; among the more widely used are superphosphates, ammonium nitrate, potassium compounds, and lime; processed municipal wastes are also used. Animal manures are natural fertilizers.

See Part 2: Fertilizer; Fertilizer Materials; Sugar Beet Yield

fertilizer analysis Reported as $x-y-z$, where

x = total nitrogen

y = available P_2O_5

z = available K_2O

fescue (*Festuca*) A perennial grass used for pasture; seed 24 lb/bu; 8–10 lb/acre in mixtures; 15–20 lb/acre alone

Varieties: Kentucky 31; Alta

Nutrients used for 3 tons of grazing: 135 lb N; 60 lb P_2O_5 ; 210 lb K_2O

Meadow fescue (*F. elatior*)

Narrowleaf fescue

Red fescue (*F. rubra*)

Sheep fescue (*F. ovina*)

Tall fescue (*F. elatior* var. *arundinacea*)

See Part 2: Seed, Germination

festpolsø A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned, beef and lamb stuffed into an artificial casing

feta A crumbly, white, brined cooking cheese made from cow's, goat's, or sheep's milk and packed in salt brine See **feta cheese**

feta cheese (fetta cheese) A cooking cheese from the Balkans that is pure white, semisoft, and salted; used for salad or cooking; a dry, salty cheese made from goat's milk

Term:

Saganaki—small, fried squares

Composition: moisture 51–57%; protein 14–20%; fat 21–24%; carbohydrate 3–4.5%; fiber 0%; ash 4–5.2%; sodium 316 mg/oz

1 cup, crumbled = 4 oz

See **feta**

See Part 2: Milk and Cheese, Composition

fetlock The area on the legs below the cannon and above the pastern (ankle)

fetta A salty, white, fetalike cheese

fetticus See **field salad**

fettuccelle See **spaghetti**

fettuccini A flat-shaped spaghetti; little ($\frac{1}{4}$ – $\frac{1}{2}$ in. wide) noodles

fetus Unborn offspring from the embryonic stage to parturition; the embryo in the later stages of pregnancy

feuille de Dreux A ricci-type cheese wrapped in chestnut leaves

FF Frozen food

FFA (ffa) See **Free Fatty Acid Analysis; Fresh Freezer Accumulation**

FFC Frozen food container

FFDCA Federal Food, Drug and Cosmetic Act

fambres meat, luncheon A moist, cooked, unsmoked Uruguayan sausage made from finely chopped, mildly seasoned beef, pork, and veal, with gelatin, flour, vegetables, and eggs and not stuffed into a casing

fiber (fibre; roughage) A long, thin, and generally crystalline form of matter whose dimensions may be from 1 micron (μm) to 0.05 in. diameter and up to a foot or more long (for some cellulosic fibers); many proteins are fibrous, e.g., keratin in hair and wool. Asbestos also has a fibrous structure. The sarcolemma surrounding a muscle fiber or cell is fibrous. Fiber in the diet comes only from plant sources and promotes bowel regularity by providing bulk and absorbing many times its weight in water, and also promotes satiety through the feeling of fullness. It is composed of complex carbohydrates such as cellulose (e.g., stems of salad greens, celery, wheat bran, and apple skins). *See cell*

See Part 2: Cherry Composition; Egg Composition; Flour, Extraction Rates; Fruit Composition; Grain Analysis; Macaroni and Noodles, Composition; Manure Analysis; Meat and Meat Products, Composition; Milk and Cheese, Composition; Oil Meals, Composition; Packinghouse By-Products Composition; Plant Foods, Composition; Pulses, Nuts, and Seeds, Composition; Seed Composition; Soybean Composition; Starches and Starchy Roots, Composition; Sugars and Syrups, Composition; Tomato and Tomato Products, Composition; Vegetable Composition; Wheat, Carbohydrate Composition; Wheat Products, Composition

fiber, crude, analysis Measures the quantity of material that will not go into solution in acid and alkali, e.g., cellulose, insoluble hemicellulose, and lignin

fiber, dietary The dietary carbohydrate component that cannot be metabolized or degraded by the human digestive system

fibre A paper or cardboard material formed by compressing vegetable fibers *See fiber*

fibril A small filament; an extracellular, threadlike structure

fibroblast A flattened, irregularly shaped cell found in association with developing muscle; fibroblasts produce a matrix of collagen fibrils (basement membrane) around developing myotubes.

fibroin The principal protein of silk, made up of the amino acids glycine, alanine, tyrosine, and arginine

fibrous Having a stringy texture

fibrous connective tissue Connective tissue in which the fibers are closely woven with little space between them

fibula The small hind shank bone running parallel to the tibia and often fused to it
See Part 2: Bone

fiche *See microfiche*

ficin A buff-colored, bitter, proteolytic enzyme from the sap of the fig tree; used to tenderize meat, in brewing, and to coagulate milk

fiddlehead The coiled tips of young ferns; asparagus-flavored *See fern shoots; fiddlehead fern*

fiddlehead fern (cinnamon fern) An edible fern with a curved stem; the young shoots have a fiddlehead shape and have an asparagus flavor; available fresh or canned

fidellini *See spaghetti*

field bean *See broad bean*

field bindweed (*Convolvulus arvensis* L.) A perennial weed

field salad (corn salad; lamb's lettuce; *Valerianella olitoria*) A plant whose spoon-shaped leaves are used for salad greens (lettucelike with a slightly bitter taste); 45 days to maturity; large, round, dark green leaves *See corn salad*

Composition (raw): moisture 93%; protein 2%; fat 0.4%; carbohydrate 4%; ash 1%

FIFO First in, first out

fifth (of a gallon) A measure of liquid volume used chiefly for liquor

1 fifth = 25.6 oz

fig (*Ficus carica* L.) A shrub (originally from the Mediterranean and Middle East) that produces a pear-shaped fruit that may be green, brown (yellow) or purple (black); the fruit has a thin skin and does not keep well; it has mild laxative properties. The pulp may be red to yellow-brown.

Varieties:

California

Adriatic—small

Calimyrna—almost white; brown flesh

Mission—dark purple

Southeastern states

Brown Turkey

Brunswick

Celeste

Magnolia

Figs are available fresh, dried, or canned.

Fresh varieties:

Brown Turkey—large, pear-shaped, green and brown skin and amber pulp

Calimyrna—large, onion-shaped, green or yellow color skin, red pulp

Kadota—small, round, green skin, purple pulp

Mission (Black Mission)—large, pear-shaped, purple skin, red pulp

Dried (domestic) varieties:

Adriatic—white; medium sized, pear-shaped; heavy, soft skin; brown flesh with numerous small, hollow seeds; holds shape on cooking

Black Mission—dark purple; large, pear-shaped; brownish red flesh with small seeds; good flavor

Calimyrna—light color; large, onion-shaped; brown flesh with few large, oily seeds; very sweet

Kadota—yellow; small, round; thick skin; almost seedless

Dried styles:

Bulk—white and black figs; in natural shape

Layered or pressed—white figs; split, flattened and arranged in layers in shingled fashion

Pulled rounded fig—white figs; pulled by hand to produce an oblong shape

Pulled squared fig—white figs; pulled by hand to produce a square shape

Figs	Composition						Storage		
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)	pH	Temp. (°F)	RH (%)	Life
Dried	15-24	0.6-4.0	1	53-69	2		32-40	50-60	9-12 mo.
Raw	77	1	0.3	20	1	4.6	28-32	80-85	7 days

Canned varieties and styles:

Celeste—smaller

Kadota—light greenish yellow to amber; whole fruit packed in syrup (most of which comes from the fruit); practically seedless; skin is absorbed

Magnolia—small; practically seedless; skin is absorbed

Mission

Preserved style—packed in very thick syrup

Whole

In light syrup, flavored with lemon juice

In water

Count per can:

No. 1—10

No. 2—14

No. 2½—20

No. 10—75

Equivalents:

1 lb figs, dried = 40-50 black cooking figs

= 44 med. figs

= 2.5 cups, dried, whole

= 3 lb fresh California figs

= 4 lb fresh figs from other places

= 2½ cups fine-cut dried figs

1 lb fresh figs = 2.7 cups, fine-cut

= 12 raw med. figs

1 cup, fine-cut, dried = 170 g (5.7-6 oz)

1 cup, chopped, dried = 5.4-6 oz

1 cup, fresh, peeled = 0.5 lb

1 cup, canned, solids and liquid = 8.4-8.8 oz

1 small (1.5 in.) fig, fresh = 1.3 oz

1 fig (2 × 1 in.), dried = 0.7 oz

Storage (fresh): Refrigerate; use within 1-2 days.**See alternaria rot; aspergillus black-mold rot; blue-mold rot; cladosporium spot; endosepsis; gray-mold growth; soft rot****See Part 2:** Calcium, Daily Recommendations; Fruit and Nut Rootstock; Fruit, Availability; Fruit, Canning Dates; Fruit Classification; Fruit Composition; Fruit Storage; Minerals, Food; Plant Foods, Composition; Standards, Processed Fruit and Vegetable Products; Storage**figatelli** A farmer sausage, made from pork and pork liver, that is often fried; a moist or semidry, uncooked, smoked or unsmoked fresh sausage made from medium- or coarse-chopped, medium-seasoned pork, with liver, fermented and stuffed into pork casings; the product is to be fried.**fig bar** Composition: sodium 96 mg per 2 bars (28 g)
1 small bar = 50 calories**See Part 2:** Grain Products, Composition**fig, canned** In addition to figs, may also contain natural and artificial flavors, spices, and vinegar**Sucrose content of syrup:**

Extra light 11-16%

Light 16-21%

Heavy 21-26%

Extra heavy 26-35%

fig, jumbo Dried, extra-large, fancy Calimyrna figs**fig nectar (juice from figs)** The unsweetened material extracted from dried black figs cooked in water**fig pudding** Contains dried figs, eggs, flavoring, flour, and sugar**fig souring** A destructive alcohol fermentation followed by acetic acid production in the fig; the pulp changes to colorless and watery, liquid exudes from the eye, and the skin is water-soaked and soft; it is caused by several yeasts (*Hanseniaspora* spp. and *Torulopsis* spp.) and acetic-acid bacteria**fig splitting** Spherical and oblate figs are more susceptible to splitting; damp, cold weather, and careless handling will increase the problem.**fig sunburn** A blemish of dead, hard, tan to dark brown bands encircling the eye or on the side of the fruit**fig wasp** *See endosepsis***fjnkost** A salami made from beef and pork; a dry, uncooked, smoked Belgian sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings**fil-** A prefix meaning thread**filament** 1) An extremely long fiber. 2) The portion of the stamen supporting the anther. 3) A single fibril
See Part 2: Flower, Perfect**filbert (cob nut; hazelnut; *Corylus avellana* var. *maxima*)** A hazel-type nut that grows on a large tree and is covered by a more extensive husk**Types:**

American filbert

Californian

Chinese

Cob nut or Kent cob

European filbert—variety Barcelona

Frizzle

Giant

Himalayan

Japanese

Red

Siberian

Tibetan

Turkish

White

Variety	Nut	Tree	Pollination
Barcelona	Round	Vigorous, 12–15 ft	From Royal
Common Royal	Sweeter Large	12–15 ft	From Barcelona

Shape: long; round

Sizes: jumbo; large; fancy; baby

To remove skin: bake (300°) while stirring, 15 min; cool slightly.

1 lb nuts, unshelled

= 7.3 oz nuts, whole, shelled

= 1.5 cups nuts, whole, shelled

1 lb, shelled = 2.5 lb, unshelled

1 lb, whole, shelled = 3.5 cups

1 cup, whole, shelled = 135 g (4.7 oz)

Composition	Dried	Fresh
Moisture (%)	4–6	48
Protein (%)	13–15	8
Fat (%)	62–66	28.5
Carbohydrate (%)	9.7–17	1.5
Cellulose (%)	3–7	2.5
Ash (%)	1.8–2.5	1.5

See also **hazel**

See Part 2: Beans, Peas, and Nuts; Fruit and Nut Rootstock; Minerals, Food; Nut, Grades

filbunk A mucilaginous sour-milk product

filé Leaves and leaf buds of sassafras that have been dried and powdered; used as seasoning and for thickening

filet See **fillet**

filet mignon Filet of boneless beef tenderloin garnished with bacon

See Part 2: Broiling Time and Temperature; Portion Size

filletwurst A moist, cooked, unsmoked eastern German blood sausage made from finely or coarsely chopped, medium-seasoned pork stuffed into a beef, pork or artificial casing

filfar A bitter, orange liqueur

filia A thick, ropy, fermented cow's milk, low-med. acid (pH 4.4–4.7)

filiform Describes small papillae (without taste buds) on the tongue

fill 1) Fullness of the digestive tract. 2) Animal weight due to recently consumed feed and water.

filled cheese Cheese from which butterfat has been removed during processing and replaced by other fats

filled milk Milk in which part or all of the butterfat has been replaced by vegetable or other animal fat or oil

Composition: moisture 87–88%; protein 3–4%; fat 3–4%; carbohydrate 4–5%; fiber 0%; ash 0.8%

Contains lauric acid oil

See Part 2: Cultured Dairy Products, Composition

fillet 1) A boneless strip of lean meat or meaty sides of fish

Types:

Block fillet—the flesh from both sides, usually joined at the back

Commercial (quarter) nape fillet—belly flap removed; essentially boneless

Crosscut fillet—filets of flatfish; may include the belly flap

Full nape fillet—a single fillet, including belly flap and often rib bones

Quarter-cut fillet—each fillet taken off in two pieces

Single fillet or side—the flesh from one side of a roundfish

2) Material placed at an intersection, for strength. 3)

A thin strip, band, or engraved line. See also **psaos major**; **tenderloin**

See Part 2: Fish Fillets; Fish Forms; Fish, Smoke-Cured; Fish Yields

fillet, cracow A moist, cooked, smoked Greek sausage made from medium-chopped, medium-seasoned beef and pork, with 80% precooked meat pieces in the paste, stuffed into an artificial casing

fillet, Greek A moist, cooked, smoked Greek sausage made from medium-chopped, medium-seasoned beef and pork, with 70% precooked meat pieces in the paste, stuffed into an artificial casing

fillet, origan A moist, cooked, unsmoked Greek sausage made from medium-chopped, medium-seasoned beef and pork, with 70% precooked meat pieces in the paste, stuffed into an artificial casing

filling See **frosting**

filling temperature The product temperature at the time a container is filled

filly A young female horse that has not produced a foal

film gauge Film thickness

See Part 2: Film Gauge

filmjolk A thick, ropy, fermented cow's milk, low-medium acid (pH 4.4–4.7)

filter To remove suspended matter from a gas or liquid by passing it through a porous article (e.g., paper, fine mesh) or mass (e.g., sand); e.g., filtering fruit juice from jelly

filter aid A substance similar to a coagulant aid but added prior to filtration to improve efficiency of filtration

filter, anthracite A graded filter that is coarser (0.72 mm) and lighter than a sand filter; it requires less backwash pressure, but backwash is needed more frequently than with sand.

filter, Anthrafil See **filter, Anthracite**

filter, capped A sand filter with the top layer consisting of anthracite (a coarser medium), which gives longer filter runs

filter, high-rate A density-graded sand filter with the larger particles on top

filter, membrane (millipore) A filter that is used to remove exceptionally small particles (even colloids in the millimicron range)

filter paper The higher the number (of products from a given manufacturer), the smaller the particles that the paper will remove

296 filth test

filth test A determination of food contamination by rodent hairs and insect fragments

filtrate Liquid that has passed through a filter

filtrate factor *See* **pantothenic acid**

filtration The physical separation of liquids and solids

filmbriae Filamentous appendages that are smaller, shorter, and more numerous than flagella; they do not contribute to motility, probably aid in adhering, and occur on both flagellated and nonflagellated cells.

fin A bony but flexible structure attached to the bodies of fish at various locations to serve in locomotion and to act as stabilizers
See Part 2: Fish Nomenclature

financière A rich garnish

financière sauce A brown sauce flavored with truffles and liver

fin bone *See* **feather bones**

fin de siècle An excelsior-type cheese

fined Wine that has been clarified by using albumin or isinglass to cause sediment to fall to the bottom

fine grind The smallest particle size (of coffee beans)
See Part 2: Coffee Granule Designation; Coffee Particle Size

finer Material that will pass through a screen

finer herbes A mixture of finely chopped sweet herbs used in cooking; it may include basil, chervil, chives, mint, parsley, savory, shallots, and tarragon.

fine-wool sheep A classification of sheep that includes the following breeds: American Merino, Delaine Merino, and Rambouillet
See Part 2: Sheep Breeds

finger Transverse process on a vertebra
See Part 2: Beef Wholesale Cuts; Bone; Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

finger steak A steak cut from the chuck

fining The material (e.g., egg white or gelatin) for clarifying (the material settles to the bottom, carrying impurities with it), used in connection with the processing of metal, glass, liquid, beer, wine, etc.
See Part 2: Minerals (Trace), Limits

finish 1) To fatten an animal; the degree of fatness; the amount and distribution of fat on an animal; fatness, smoothness. 2) The portion of a glass container used for holding the cap or closure

finished equilibrium pH The pH of the finished product

finishing varnish A clear, transparent coating placed over inks to produce gloss and to protect the appearance

finish point *See* **end point**

finnan haddie 1) A lightly salted (cured in a brine containing carotene) haddock that is pale yellow, smoked, usually baked, and often served in a cream sauce; it is headless and split open, with part of the backbone removed; the flesh is flaky and tender. Market name for hot-smoked haddock
See Part 2: Fish, Smoke-Cured

Finn Crisp A cracker

Type and color:
Caraway—red
Rye—yellow
Wheat—orange

fino A dry, young sherry with flor; a pale, dry, light-bodied sherry

finocchio dulce (finnochio dolce) *See* **finocchio dulce; Florence fennel**

finocchio dulce (finocchio dolce) *Foeniculum vulgare dulce* *See* **Florence fennel**

finte (Alosa finta) A shadlike marine fish used for food

fior di latte A mozzarella-type cheese made from cow's milk

fiore d'Alpe A creamy, semisoft, surface-bacteria-ripened, mild-flavored, cheese made from cow's milk

fiore sardo A very hard cheese made from sheep's milk; an Italian cheese made from sheep's milk, somewhat dumbbell-shaped with a dark yellow rind; the center is straw-colored to white. Fiore sardo may be ripened for table use (young), dried hard (cured) for grating, or brine-soaked.

fire blight (Erwinia amylovora) A bacterial disease that affects apple and pear trees; it first appears as blossom blight (blossoms wilt and turn light to dark brown), spreads to shoot or twig growth (starts at the tip and moves downward) and to leaves (which turn brown to black), and later spreads to developing fruit; finally, the tree will die.

Prevention: use resistant varieties; prune infected tissue (disinfect pruning tools); avoid excessive use of nitrogen fertilizers; control insects.

fired The heating step in processing tea to stop fermentation; used to control the amount of fermentation that takes place

Types: basket-fired; pan-fired

fire lily *See* **bear grass**

fire point The temperature at which oil, when heated under specific conditions, will ignite and burn for at least 5 seconds *See also* **flash point**
See Part 2: Free Fatty Acid, Smoke, Flash, and Fire Points

FIRI Fishery Industry Research Institute

firm Describes a solid, compact texture; a subjective term used to describe the maturity or ripeness of fruit (the fruit will give slightly to pressure)

firmining agent A substance that coagulates and/or improves texture; a material used to prevent the texture of processed fruits and vegetables from becoming too soft and used to assist the coagulation of some cheeses; e.g., calcium chloride, calcium citrate, or calcium lactate

firmness Hardness; describes an unyielding substance; degree of resistance

fir-needle oil An essential oil obtained by steam distillation of needles from Canadian or Siberian pine or balsam

Types:

Canadian (*Abies balsam*)—sp. gr. 1.472–1.476
Siberian (*A. sibirica*)—sp. gr. 0.898–0.912

Used as a flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

first operation In double seaming, where the curl of the lid is tucked under the flange of the can body

fish Aquatic, cold-blooded vertebrates, equipped with fins and usually scales; they also have gills by which they extract dissolved oxygen from the water.

Part	Freshness of fish	
	Fresh	Stale
Body	Does not bend under own weight	Bends easily
Eyes	Clear, bright; not filmed, not sunken	Cloudy, red-bordered
Gills and mouth	Closed	Pale yellow or gray-red; covered with slime; disagreeable odor
Scales	Cling to skin	Slimy, easily removed
Whole fish, placed in water	Sinks	Floats

Available forms:

Chunks—cross section of dressed fish, with backbone the only bone; ready to cook

Drawn, or cleaned—whole, eviscerated; 50% edible yield

Dressed, or pan-dressed—scales and entrails removed, usually head, tail, and fins also removed; 38–67% edible yield

Large—may be cooked as is, but often filleted or cut into steaks or chunks first

Small—ready to cook

Fillet—sides of fish, cut lengthwise; may be skinned or with skin left on; ready to cook; 60% edible yield

Fried fish portions—portions cut from frozen fish, coated with batter, breaded, partially cooked, and frozen; weight more than 1½ oz; ready to heat

Fried fish sticks—sticks cut from frozen fish, coated with batter, breaded, partially cooked, packaged, and frozen; weight up to 1½ oz; ready to heat

Portions—breaded blocks; may be raw or cooked; 90% edible yield

Steak—a ½- to 1-in. cross section, including backbone, of a dressed fish; ready to cook; 60–84% edible yield

Raw breaded fish portions—portions cut from frozen fish, coated with batter, breaded, packaged, and frozen; weight more than 1½ oz; ready to cook

Sticks—breaded blocks; may be raw or cooked; 90% edible yield

Whole (round)—just as the fish comes from the water, including entrails, scales, and head; 27–45% edible yield

Minimum flesh content:

Fish (1½–8 oz)—75%

Portions, breaded (1½–8 oz, fried)—65%

Fish sticks (¾–1½ oz)—72%

Fish steaks, breaded (¾–1½ oz, fried)—60%

Environment:

Freshwater fish—less distinctive flavor

Saltwater fish—more distinctive flavor

To thaw frozen fish: Wrapped, place in a refrigerator for 18–24 h (1-lb package); in airtight package, place under cold running water for 1–2 h (1-lb package)

Cook: 11–15% fat absorption during frying; cook 10 min per inch of thickness

1 lb, whole = 1–2 servings

1 lb, dressed or pan dressed = 2–3 servings

1 lb, portions or steaks = 3 servings

1 lb, fillets = 3–4 servings

1 cup, cooked, flaked = 0.62 lb

Form	Quantity for one serving (oz)	Yield (%)
Dressed	8	38
Fillet	5	60
Pan dressed	8	38
Portions	5	90
Steaks	5	60
Sticks	4	90
Whole	12	27

Sodium content [per 3 oz (85 g)]:

Raw—40–60 mg

Cooked—48–100 mg

Canned (salt added)—298–443 mg

Cured or smoked—5234 mg

Defect action level: 50 cysts/100 lb, provided that 20% of the fish are infested

Storage (uncooked): wrap loosely in plastic and refrigerate; use within 2 days.

Storage (cooked): wrap in foil or plastic; refrigerate; use within 2 days

Classification (fat content)	Cooking method	Fat (%)	Fish	Liver	Flesh	
					Color	Flavor
Lean	Poach, soup, stew, fry	Less than 2	Cod, haddock	High in fat	White	Little
Medium-fat		2–5	Halibut, pollock	High in fat		
Fat	Bake, broil, grill, fry	More than 5	Salmon, mackerel, herring, shad, lake trout, butterfish, eel		Yellow, pink, or gray	More

Storage (thawed): in leakproof wrap; refrigerate (28–30°F); use within 1–2 days

Storage (frozen)—0°F; in moisture- and vapor-proof wrap; keep fat fish no more than 3 months, lean fish no more than 6 months.

	Temp. (°F)	Relative humidity (%)	Storage life
Fresh	28–30	90–95	1–5 days
Frozen	–10	90–95	8 months
Salted	40–50	90–95	10 months
Smoked	40–50	50–60	6 months

See Part 2: Animal Foods, Composition; Calcium, Daily Recommendations; Calories, Daily Recommendations; Fish and Shellfish, Composition; Fish Cross Section; Fish, Drawn; Fish, Dressed; Fish Fillets; Fish Forms; Fish Nomenclature; Fish, Smoke-Cured; Fish Steaks; Fish, Storage; Fish Yields; Food, Composition; Frozen Food Storage; Frying Time; Glutamate; Iron, Daily Recommendations; Meat, Servings Per Pound; Minerals, Food; Minerals (Trace), Limits; Moisture in Biological Materials; Niacin, Daily Recommendations; Nicotinic Acid, Food; Portion Size; Riboflavin, Daily Recommendations; Riboflavin, Food; Spoilage, Protein Foods; Storage Times; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Fish; Vitamin A, Food; Vitamin D, Fish; Vitamin D, Food

fish ball A cooked mixture of fish, milk, broth, flour, and seasoning, shaped into oval patties (15–20/lb); made from codfish, haddock, and/or pollock, potato flour, milk, spices, and fish bouillon (which can also be used to make soup or sauces)

fish cake A cooked cake made from fish, potatoes, seasoning, and sometimes egg, butter, and onions; often dipped in eggs and bread crumbs and deep-fat fried; fish is 35–50% of the weight

fish chowder A thick mixture of cooked fish or shellfish and potatoes in a broth made from fish stock, pork, flour, and seasoning

fish, colombo-cured Fish, usually mackerel, cured in an acid extract of fruit pulp of *Garcinia cambogia*

fish, dried Fish that has been preserved by salting and drying

fish, fat A fish that has a high percentage of oil in its flesh and that usually has more flavor

Types: bluefish; butterfish; chubs; croaker; halibut; herring; king mackerel; mackerel; mullet; pickerel; pompano; sable; salmon; shad; smelt; Spanish mackerel; tilefish; tulibeas; whitefish

Storage (frozen): should be kept no longer than 3 months

fish flakes Canned, boneless, flaked fish that has been cured in brine and steamed; pieces of cooked codfish and/or haddock packed without brine

Served: creamed, baked, or scalloped

fish flour (fish protein concentrate) Produced by treating whole, comminuted fish with a solvent that removes water and fat, after which the solvent is removed

Composition (whole fish flour): moisture 2%; protein 78%; fat 0.3%; ash 20%

fish, freshwater The following types are often used for food: bass (black or white); bullhead; catfish; chubs; crappies; herring; mullet; perch; pickerel; pike; sheephead; spoonbill; sunfish; trout; tulibeas; whitefish

fish in jelly Pieces of fish (minimum 50%) that have been heated in acidified brine or vinegar, fried, or smoked and packed in gelatin, gelatin and pectin, or aspic; vegetables are sometimes added.

fish inspection Regulation of fish and other seafood is the responsibility of the Department of the Interior

fish, lean A fish that has a low percentage of oil in its flesh and that usually has less flavor

Types: bass; bluefish; bullhead; catfish; codfish; crappie; croaker; flounder; grouper; haddock; jewfish; perch; pike; pompano; red drum; red snapper; sea trout; sheephead; snapper; spoonbill; spot; squid; sunfish; swordfish; tilefish; trout; whiting

Storage (frozen): can be kept for up to 12 months

fish-liver oil Oil extracted from fish (usually whitefish) livers; usually high in vitamins A and D

fish-liver paste Ground fish liver mixed with salt, spices, and flavoring agents

fish manure A safe fertilizer

fish meal (fish-protein concentrate; FPC) A 70%-protein animal food (some high-grade meal is used for human consumption) made from fish house waste by dry or wet rendering; 1 lb/qt; 35 lb/bu

Fish used:

America—menhaden

Europe—cephelin, mackerel, sandeel

Japan—mackerel, sardine, sauries

Norway—pout

Peru—anchoveta

Mechanically extracted	Fish meal composition				
	Dry matter (%)	Protein (%)	Fiber (%)	Fat (%)	Ash (%)
Anchoveta	92	65	1	4	15
Herring	92	72	0.7	8	10.5
Menhaden	92	61	1	9.5	19
Sardine	93	65	1	5	16
White	91	62	1	4.6	23

See **fish-protein concentrate**

See Part 2: Packinghouse By-Products Composition; Water Activity, Organisms and Food

fish oil An oil obtained from the bodies of fish, especially the livers, which are rich in vitamins

See Part 2: Fats and Oils, Characteristics; Oil or Fat, Characteristics; Saturated Fatty Acids; Vitamin D, Food

fish paste (fish spread) A dark (yellow-brown), salty (20–25%), fermented sandwich spread or condiment made from fish or shrimp ground to a fine consistency and mixed with salt and sometimes spices and/or fat

Types: anchovy paste; sardellian butter; sardine paste

fish, pickled Fatty fish (e.g., herring) pickled in acid, salt, and sugar and matured for months

fish portion Cohering pieces of fish flesh cut from frozen blocks; min. weight $1\frac{1}{2}$ oz (40 g); min. thickness $\frac{3}{8}$ in. (1 cm)

fish-protein concentrate (FPC) A product prepared from whole (not eviscerated), fresh fish by a solvent process that removes both fat and water; the remaining tissue is converted to a flourlike material that can be incorporated into prepared foods. *See* **fish flour; fish meal**

fish, saltwater The following are common food types: bass (black, striped); bluefish; butterfish; codfish; croakers; flounder; grouper; haddock; halibut; hake; herring; mackerel; mullet; pompano; red snapper; sable; salmon; shad; smelts; sole; squid; swordfish; tilefish; whiting

fish sauce A stable, bold, salty, brown sauce made from fish with fish enzymes and used as a seasoning

fish sausage A moist, cooked, unsmoked Japanese sausage finely chopped, medium-seasoned fish cooked with 10–20% pork backfat cubes and stuffed into an artificial casing

fish scrap (fish waste) Unground fish meal; waste fish products used as an agricultural fertilizer; 9.5–6.0; it is slightly acid in nature and would require 0.05 lb of dolomitic limestone to neutralize each pound applied.

fish solubles A fish by-product that is used as animal feed

Composition	Condensed	Dehydrated
Dry matter (%)	50	93
Protein (%)	33	64
Fiber (%)	0.5	1.4
Fat (%)	5.6	8
Ash (%)	10	12.5

fish stearin A solid fat produced by separating chilled fish oils; used in the production of lubricants and soap

fish stick A rectangular block, breaded and often fried, cut from frozen whitefish fillets; min. weight is often 1 oz and min. length is at least three times the width.

See Part 2: Fish and Shellfish Composition; Fish, Storage

fishy Having the odor or flavor of fish or of trimethylamine

fission Asexual reproduction in which an organism divides into two approximately equal parts

fissurelle Any of many varieties of marine mollusk; cooked like octopus

fitula 1) An abscess in the area of the withers. 2) An opening into an internal organ; an artificial opening in the body; a passage from some part of the body to another or to the exterior

Fitulina hepatica (liver fungus; oxtongue) An edible oak-tree fungus

fitfit Injera (a soft bread baked from teff) mixed with wot, or stew

fito A sorghum beer

five-gaited horse A horse that has three natural gaits (walk, trot, canter) and two learned gaits (slow gait, rack)

fixative A substance used to reduce the overall volatility of flavoring agents

fixed oil An oil that must be solvent-extracted or expressed; similar to a fatty oil (an extractable, non-volatile oil) except that it may also contain a few nonvolatile compounds dissolved in the fat

fixed-price contract A contract based on a price that will not differ from that agreed upon at the time of ordering

fixed reel phase When cans are maintained in a stationary position by the reel of the cooker

fixing agent A substance used to preserve protoplasm with the least amount of alteration; solutions used are alcohol, formalin, mercuric bichloride, potassium bichromate, acetic acid, formic acid, osmic acid, and picric acid; mixtures used are Zenker's fluid, Bouin's fluid, and Mueller's fluid.

fizz 1) An effervescent, sweet, alcoholic drink made primarily with gin. 2) Effervescent properties

fjellbit A beef and lamb salami that also contains blood; a dry, uncooked, smoked Norwegian sausage medium-chopped, medium-seasoned beef and lamb with plucks and blood added, fermented and stuffed into an artificial casing

fjellmorr gilde A pepperoni made from beef, lamb, and pork, with added offal and blood; a dry, uncooked, smoked Norwegian sausage made from medium-chopped, heavily seasoned beef, lamb, and pork, with some plucks and blood added, fermented and stuffed into a beef casing

fkoss A tea bread

flagella Thin, hairlike appendages that protrude through the cell wall and are responsible for bacterial motility; they may be attached to the ends of the cell or may emanate from all surfaces and more common on bacilli-type bacteria. *See also* **flagellum**

flagellum A long, contractile process that is the organ of locomotion of many bacteria *See also* **flagella**

flageolet A variety of small, green, dried beans

flag smut (*Urocystis agropyri*) A disease that produces dark stripes on leaves, sheaths, and stems of wheat; it stunts the plant and prevents the formation of normal heads.

flake 1) Dehydrated vegetables used as flavoring materials. 2) To break into small, flat pieces. 3) One of several thin layers that are separated by open spaces

flaked (rolled) Material that has been passed between rollers

flake tapioca Dough made from tapioca flour, rolled in thin sheets and baked; if ground, it is called granular tapioca.

flaky Describes the texture of loose, easily separated layers

flambé Describes food that has been flamed (set afire)

flamber To flame food with an alcoholic mixture; to singe

Flame A variety of grape

flan (pie; tart) An open tart cooked in a pastry shell; a round, open pastry shell that is filled with sweet or savory material; a tartlike pastry filled with fruit,

300 flan (pie; tart)

cream, or custard; a custard dessert with caramel syrup

flange 1) The outward-flared edge of a can body that forms the body hook on a double seam; the flare on the top of an unseamed can. 2) The outermost part of a can cover

flanged opening A threaded fitting (used for filling and dispensing) on a steel drum

flank The side of an animal, between hips and ribs; meat from this area; about 4% of a choice cattle carcass

See Part 2: Beef Chart; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Wholesale Cuts; Lamb Chart; Lamb Yield; Meat Identification; Veal Cuts and Uses

flank steak (The *Rectus abdominus* muscle) A tear-shaped steak removed from the flank area; a membrane is removed from it and it is usually cut across the fibers; only two of these steaks may be obtained from an animal.

1 flank steak = 1-3 lb

See Part 2: Beef, Boneless Cuts; Beef Chart; Braising Meat

flannel cake A pancake topped with chicken or turkey and a cream or vegetable sauce

flapjack 1) A griddle cake. 2) A biscuit made with oats

Flash 18 (Swift & Co.) A canning system in a pressurized (18 lb) can-filling room; this raises the boiling point of a liquid (250-255°F is normally used).

flash point The temperature at which fat exposed to a test flame will flash but not continue to burn; that temperature at which an ignitable concentration of vapor develops above the surface of an organic liquid; liquids that evolve such concentrations at or below 80°F are considered flammable, e.g., ethyl alcohol.

	Fats	Cottonseed oil
Smoke point	320-500°F (160-260°C)	450°F (232°C)
Flash point	554-626°F (290-330°C)	625°F (330°C)
Fire point	644-689°F (340-365°C)	685°F (363°C)

See Part 2: Free Fatty Acid, Smoke, Flash, and Fire Points

flaskkorv A moist, cooked or uncooked, unsmoked Swedish sausage made from finely chopped, mildly seasoned beef and pork stuffed into beef, pork, or artificial casings

Composition: moisture 65% max.; fat 23% max.; binder 3% max.

flat 1) Having little or no flavor. 2) Having low acidity. 3) Loss of carbonation. 4) A shape of cheese: diam. 14-16 in.; height 4-7 in.; weight 35-45 lb. 5) A shallow tray (containing soil) for growing plants

flat bone See Part 2: Bone and Retail Cuts

flat bone sirloin See double bone sirloin

flatbread 1) A general term for thin, flat bread, usually with a pocket. 2) The term is also used for lavash. See lavash; nan

flatbrod A thin, crisp wafer made from rye, barley, or wheat

flatfish (order Heterosomata) A fish with both eyes on the same side of the head (the "eyed side," the other side is the "blind side"); types include, e.g., flounder, halibut, plaice, sole, and turbot See flounder

flathead A food fish

Australia

Leviprora spp.

Neoplatycephalus spp.

Platycephalus spp.

Trudis spp.

Pacific—*Platycephalus indicus*

flathead sole (*Hippoglossoides classodon*) A food fish

flat price The same as the spot or actual cash price

flats A type of cheddar cheese

flat sour A type of spoiled canned goods; the can does not bulge but the food is sour. The spoilage is produced by thermophilic anaerobes and is due to slow cooling, which allows bacterial growth.

See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH

flatulence The formation of gas in the stomach

flatulent Generating gas in the digestive system

flauta Two overlapping corn tortillas that have been rolled to form a long tube, filled, and fried

flav- A prefix meaning yellow

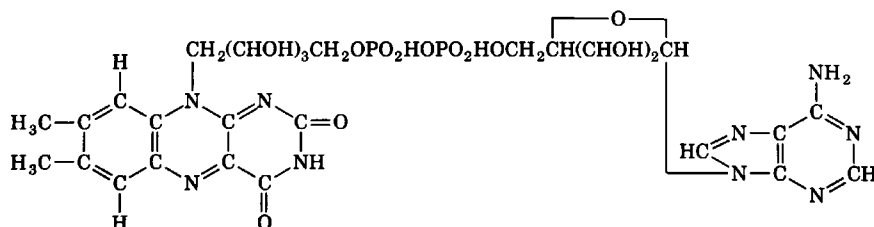
flavanone Any of a group of plant pigments producing yellow and orange colors

See Part 2: Lemon Juice, Composition

flavedro Yellowness

See Part 2: Orange Structure

flavin adenine dinucleotide (FAD)



- A coenzyme that occurs in many enzymes; a constituent in riboflavin
- Flavobacterium** A genus of gram-negative rods that often produce rancidity
See Part 2: Spoilage, Protein Foods
- flavone** (C₁₅H₁₀O₂) A white-yellow plant pigment
- flavoprotein** A complex of a flavin nucleotide and an enzyme See also **adenine-riboflavin dinucleotide**; **riboflavin phosphate**
- flavor (flavour)** 1) The ability of food to stimulate the senses located in the alimentary and respiratory tracts, closely associated with the odor, taste, color, and texture of the food See also **taste**. 2) A substance used to heighten the natural flavor of a food or to restore flavor lost in processing
- flavor adjuncts** Substances that are added to a flavor but are not an essential part of it, e.g., anticaking agents, antioxidants, carriers, density-adjusting agents, emulsifiers, enzymes, organic acids, and solvents
- flavor, artificial** A flavor not found in nature
- flavored milk drink** See Part 2: Cultured Dairy Products, Composition
- flavored triple crème** A soft, thin-rind cheese; 75% fat gives a buttery texture; may be eaten in its natural state or mixed with spices
- flavor enhancer (flavor potentiator)** A substance that will magnify, modify, or supplement the natural or original flavor, taste, or aroma of a food without the substance contributing significantly to that flavor
- flavoring (flavors)** A substance added to a food to give it a specific taste, e.g., vanilla, chocolate, whole spices, ground spices, essential oils or oleoresins of spices, hydrolyzed plant protein flavorings, and monosodium glutamate; many are made synthetically. An extract or essence that imparts its flavor to food; some are available in paste (sugar) form. Over 2000 are used in food and approximately one-fourth are natural. See also **taste**; **flavor**
See Part 2: Flavoring Agents, Natural; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Minerals (Trace), Limits
- flavoring extract** A solution in ethyl alcohol (of the proper strength) of the sapid and odorous principles derived from an aromatic plant
- flavor, natural** A flavor derived from a natural animal or plant product
- flavor potentiator** See **flavor enhancer**
- flax** A vegetable fiber composed primarily of cellulose; seed 20 qt/acre
See Part 2: Wax
- flaxseed (linseed)** A seed from which a drying oil is produced; flaxseed hulls and flaxseed (linseed) meal are used for livestock feed.
1 bu flaxseed = 2.5 gal oil
= 56 lb
See Part 2: Oil, Seed and Fruit; Protein Factors; Seed, Chemical Composition; Seed Composition; Seed, Germination
- flaxseed screenings** Used in animal feed
Composition: dry matter 91%; protein 16.5%; fiber 12%; fat 9%; ash 6%
- flay** To remove the skin from an animal in a uniform pattern
- flea beetle** A tiny ($\frac{1}{16}$ – $\frac{1}{5}$ in. long), brown to shiny black or striped, jumping insect that feeds on the seedling (cotyledon and first true leaves) and leaves of young plants (brassica family) and weeds, producing circular holes in the leaves (a shot-hole appearance); an insect that causes damage to tomato plants
Control: carbaryl
See **grape flea beetle**
See Part 2: Insect Control
- flead** The inner covering of the stomach of a pig
- Fleckvieh** German Simmental cattle
- fleece** The wool of a sheep
- flehmen** A courtship activity of the male of a species: the act of curling the upper lip upward and inhaling in the vicinity of the female reproductive tract
- fleisch** Meat
- fleischblutwurst** A moist, cooked, unsmoked eastern German blood sausage made from fine- or medium-chopped, medium-seasoned pork stuffed into beef, pork, or artificial casings
- fleischig** Of meat origin, including fowl
- fleischkaesi** A cured, cooked sausage in loaf form
- fleischkäse** A moist, cooked, unsmoked Swiss sausage made from finely chopped, medium-seasoned beef, pork, and veal, not stuffed into a casing
- fleischwurst** A moist, cooked, smoked western German sausage made from finely chopped, mildly seasoned beef and pork stuffed into beef or artificial casings
- flesh** The muscular tissue of animals
- fleshy-fruited vegetable** Includes eggplant, pepper, and tomato
- fleskepølse** A semidry, cooked, smoked or unsmoked Norwegian sausage made from finely chopped, medium-seasoned pork stuffed into beef or artificial casings
- fletan** See **halibut**
- fletch (flitch)** One of four longitudinal segments cut from a halibut
- Fletcher medium base** Used for the isolation, cultivation, and maintenance of *Leptospira*
See Part 2: Microorganism, Media
- fleuri** Surface mold
- fleurie** A fruity red wine
- fleuron** A small food decoration made from flake pastry
- flexible can** See **retort pouch**
- flexible container** A container that can change shape depending on pressure; usually made from laminated plastic or metal sheets
- flexor** A muscle that flexes (bends) a joint
- flier** White particles that float in white wines when the temperature has been reduced

302 flint corn

flint corn See **corn**

flip A hot or cold beverage made from almost any alcoholic beverage and egg

flip panel See **safety button**

flipper A can with internal pressure causing one end to bulge when a surface of the can is struck See **swell**; **TA spoilage**

fitch Half of a pig carcass with legs and shoulder removed; a side of bacon, sometimes including the shoulder area See **fletch**

float 1) A wheat-flour doughnut. 2) A milk shake containing undissolved ice cream

floating rib A rib with no cartilage

floc Turbidity, or particulate agglomeration

floculation The building or agglomeration of a macrofloc by coagulation

flock A group of chickens, turkeys, sheep, or goats

flor A white yeast that floats on the surface of wine, e.g., sherry

flora 1) A dry white wine. 2) The plant life of a given area. 3) The bacteria present in the digestive tract

floral Describes a flowerlike odor

flor alpina A sweet Italian cordial (50% alcohol)

Florence fennel (anise; finocchio dolce; finocchio; finocchio dulce; Italian fennel; sweet fennel; *Foeniculum vulgare dulce*) A plant resembling celery with a swollen leaf base ("bulb" or "apple," 3–4-in. diam.), which is eaten raw, in salads, or cooked; 90 days to maturity; 2½-ft plant; the flavor is aniselike, celery-like, or spicy and licorice-like; the fernlike top can be cooked like spinach. It is not the same plant as the fennel herb or the anise herb.

florentine 1) A method of cooking fish and/or eggs with spinach. 2) A chocolate-coated thin biscuit containing dried fruit and nuts

florentine, à la With spinach

floricane A cane that was produced the previous year

Florida and Walters A variety of midseason Florida grapefruit

Florida cherry See **pitanga**

flotation Separation by density or specific gravity and removal of the floc from the surface (e.g., over mature peas in a brine); the floc is often encouraged to rise by using gas bubbles.

flotost A high-fat mysost-type cheese made from cow's milk

flounder (blackback; fluke; halibut; sole; yellow-tail; *Epimotis gibbosus*; *Platichthys flesus*) The general name for various flatfish, including two families of saltwater flatfish called right-eye flounders and left-eye flounders, and also including the species of soles, flounders, and halibuts; weight is usually 1–12 lb; the term often refers to a lean flatfish (usually 12 in., 1–2 lb) caught in the middle and north Atlantic and on the east and west coasts. Another variety is the plaice (deep-sea flounder or fluke), which weighs 15 lb and is 36 in. long.

Europe—*Platichthys flesus*; *Pleuronectes flesus*

Lefteye—species of the family Bothidae

Oceania—*Rhombosolea* spp.

Righteye—species of the family *Pleuronectidae*

Atlantic species:

American plaice

Blueback

Fluke or summer flounder

Gray sole or witch flounder

Lemon sole or blackback flounder

Winter flounder

Yellowtail flounder

Pacific species:

Arrowtooth flounder

Dover sole

English sole

Petrale sole

Rex sole

Sanddab

Sand sole

Starry flounder

Common names:

Blackback—also called winter flounder, lemon sole

Dab—also called sea dab

Fluke—also called summer flounder

Southern

Yellowtail

One average flounder fillet weighs 0.25–1 lb.

Composition: protein 16.7%; fat 0.8–1.4%; cholesterol 69 mg/3 oz

See also **demersal fish**

See Part 2: Fish, Storage; Frozen Food Storage, Minerals, Food; Vitamin D, Fish

flour (plain flour; wheat flour; white flour) Any finely ground grain or cereal; a fine-ground powder made by milling (grinding) wheat and sifting (bolting) bran layers (approximately 28%) from the inner portion of the wheat grain; flour consists essentially of endosperm and may be bleached or unbleached. It is the basic ingredient for breads, pastries, and cakes, and may be made from the following: barley, buckwheat, corn, oat, rye, or wheat (the most common) which has a higher gluten content. The term may also apply to any soft, finely ground, bolted meal from grain, seeds, or other products; composed primarily of starch and gluten.

1 lb flour = 1½ lb bread

100 lb flour = 2.3 bu wheat

3–4 tbsp flour = 1 oz

2½–3½ cups flour = 1 lb

4 cups all-purpose flour = 1 lb

1 cup enriched flour, sifted = 110 g

4 cups enriched flour, sifted = 1 lb

1 qt flour, sifted = 1 lb

4–5 cups cake flour, sifted = 1 lb

3½ cups graham flour, stirred = 1 lb

1 barrel = 196 lb

Adjustment for altitude is made as follows:

Elevation (ft)	Increase in flour per cake (tbsp)
4000	1
5500	2
7000	3
8000	4

Thickening:

2 tbsp flour = 1 tbsp cornstarch, potato starch, rice starch, or arrowroot starch
 = 2 tbsp quick-cooking tapioca
 1 cup flour = $\frac{7}{8}$ cup all-purpose flour
 + $\frac{1}{8}$ cup, cornstarch

pH 6.0–6.5; sp. gr. 0.40–0.50 (loose) 0.70–0.80 (pressed)

Composition	Straight hard wheat	Straight soft wheat
Moisture (%)	12	12
Protein (%)	12	10
Fat (%)	1.2	1
Carbohydrate (%)	75	77
Ash (%)	0.5	0.4

Iron 13–16.5 mg/lb; niacin or niacinamide 16–20 mg/lb; riboflavin 1.2–1.5 mg/lb; thiamin 2–2.5 mg/lb

Storage: at room temperature in tightly closed containers; inspect often for weevils.

See Part 2: Bread and Flour Enrichment; Cereal Composition; Cereal Enrichment; Cereal Fortification; Cereals, Vitamin and Mineral Content; Flour, Extraction Rates; Food, Composition; Grain Products, Composition: Minerals, Food; Minerals (Trace), Limits; Riboflavin, Food; Soybean Composition; Storage, Dry; Storage Times; Thiamin, Food; Vitamin A, Food; Wastes, Agricultural and Industrial; Water Activity, Organisms and Food; Wheat and Flour, Composition; Wheat, Carbohydrate Composition; Wheat, Minerals; Wheat Products, Amino Acid Compositions; Wheat, Vitamins

flour, aerated Self-raising flour

flour, all-purpose (blend flour; family flour; general-purpose) Flour made from blends of wheat (usually hard and soft wheats, but may be milled from all soft wheats) that are satisfactory for most household cooking; it has less strength and elastic gluten than bread flour, but contains sufficient gluten that it is delicate enough for cake making and strong enough for bread making. Due to fine milling, it does not have to be sifted.

1 lb = 4 cups, sifted
 1 cup, unsifted, dipped = 5 oz
 1 cup, unsifted, spooned = 4.4 oz
 1 cup, sifted, spooned = 4.1 oz
 = 1 cup unsifted minus 2 tbsp

Composition: moisture 12%; protein 10%; fat 1%; carbohydrate 76%; ash 0.4%

flour, biscuit A mixture of good-quality cake flour, shortening, baking powder, and salt

flour, bleached Flour that has been treated with chemicals (oxidizing agents) to lighten the color and artificially age or mature the flour to simulate flour stored for 2–3 months; usually preferred for baking; optional bleaching agents are oxides of nitrogen, chlorine, nitrosyl chloride, chloride dioxide, acetone peroxides, or azodicarbonamide; used to produce an aging effect.

flour, bread (hard-wheat flour) Flour made for bakers and manufactured from hard wheat; high in

protein (gluten); granular; bleached or unbleached; should be kneaded 10–12 minutes.

1 pound = 3.75 cups
 1 cup, unsifted, dipped = 4.8 oz
 1 cup, unsifted, spooned = 4.3 oz
 1 cup, sifted, spooned = 4.1 oz
 1 tbsp = 0.25 oz
 1 tsp = $\frac{1}{12}$ oz

flour, bread, wheat *See* flour, graham

flour, cake Flour made from soft wheat; it is the most highly refined flour, is low in protein and is very fine. A light, fluffy flour that produces a tender texture for products like angel food cakes, sponge cakes, and cakes made with shortening; not suitable for yeast-raised products; it contains more starch and less gluten (and the gluten is less elastic) than bread flour.

1 lb = 4–4.75 cups
 1 cup, unsifted, dipped = 4–4.2 oz
 1 cup, unsifted, spooned = 3.9 oz
 1 cup, sifted, spooned = 3.5 oz
 = 100 g
 = $\frac{7}{8}$ cup all-purpose flour, sifted
 = 1 cup minus 2 tbsp all-purpose flour, sifted
 1 tbsp = 0.25 oz
 1 tsp = $\frac{1}{12}$ oz

Composition: moisture 12%; protein 7%; fat 1%; carbohydrate 79%; ash 0.3%; pH 5.0–5.2

flour, clear Straight flour, excluding the flour included in the patent grade

flour, corn Cornstarch

flour, durum A granular flour made from durum wheat by removing the bran and germ; it is yellow in color and used to make pasta products

flour, enriched Flour with added vitamins and minerals

Ingredient	Per pound	
	Min. (mg)	Max. (mg)
Iron	13	16.5
Niacin	16	20
Riboflavin	1.2	1.5
Thiamin	20	20

May also contain:

Calcium—500 mg/lb min., 625 mg/lb max.
 Vitamin D—250 USP units/lb min., 1000 USP units/lb max.

flour, entire-wheat *See* flour, whole-wheat

flour, gluten A flour that has been specially milled to obtain a product high in gluten (protein) and low in starch; a hard-wheat flour from which a large portion of the starch has been removed for people who must avoid starch; also used for special baking purposes, to mix with other flour, and in breakfast cereals

304 flour, graham [bread flour (wheat)]

flour, graham [bread flour (wheat)] Flour made from the entire wheat grain; similar to whole-wheat flour but less finely granulated

1 lb = $3\frac{1}{2}$ – $4\frac{1}{2}$ cups

1 cup = $4\frac{1}{2}$ oz

1 tbsp = $\frac{1}{3}$ oz

1 tsp = $\frac{1}{10}$ oz

flour, instant (granular flour; instant blending; instantized; quick-mixing) A general, all-purpose flour that blends rapidly with liquids; it is made by special grinding or by exposing regular flour to moisture, which causes it to clump (agglomerate). It is free-flowing and dust-free, it does not pack down in the package, and it disperses in cold water.

flour, low-grade The last 2–3% of flour obtained at the end of the milling process

flour, masa (tortilla flour) A ground, dehydrated flour made from corn treated with lime water

flour, pancake A prepared flour (primarily wheat but often mixed with corn, rice, and rye flour) that contains leavening, salt and sometimes other ingredients (e.g., powdered milk, sugar, monocalcium phosphate)

flour, pastry A whole-grain flour made mostly from soft but sometimes from hard wheat; it is low in protein and has less and weaker gluten than bread flour; finely milled (not as fine as cake flour); used by bakers (for pie crusts, tarts, cakes, and cookies) and biscuit cooks (for cakes, pastries, all quick breads, and waffles)

1 lb = 4 cups

1 cup, unsifted, dipped = 4–4.2 oz

1 cup, unsifted, spooned = 3.9 oz

1 cup, sifted, spooned = 3.5 oz

1 tbsp = 0.25 oz

1 tsp = $\frac{1}{12}$ oz

flour, patent Flour produced from the cleanest and best particles; it excludes the first and last breaks and tailings.

flour, ready-mixed See **flour, pancake**

flour, self-rising (flour, self-raising) An all-purpose flour made from winter wheat and used for cakes and pastries; it is convenient for making biscuits and quick breads and does not work well with yeast-raised products. Flour to which leavening ingredients (baking soda and monocalcium phosphate or calcium acid phosphate) and salt are added; some products contain powdered milk, eggs, and fat. It is similar to flour mixed with baking powder and salt.

1 cup self-rising flour

= 1 cup all-purpose flour

+ 1.5 tsp baking powder + 0.5 tsp salt

1 cup, unsifted, dipped = 4.6 oz

1 cup, unsifted, spooned = 4.5 oz

1 cup, sifted, spooned = 3.7 oz

Contains 500–1500 mg calcium per pound

flour, straight All the flour produced in a mill run except the low grade

flour strength The capacity of flour to make large,

elastic (or spongy) loaves of bread under a wide range of handling conditions

flour strong Flour that contains high-quality gluten and is made from hard wheat; it will absorb more liquid and is used for yeast bread. See **gluten**

flour, tortilla See **flour, masa**

flour, unbleached Flour that has been matured naturally (an oxidizing agent is not used); it is creamy in color and produces a lower volume and coarser texture in baked goods.

flour, weak Flour that contains low-quality gluten and is made from soft wheat; used for making cakes and pastries. See **gluten**

flour, white Flour that contains very little of the germ or husk; it has good storage properties and is often graded as follows:

Patent

Straight

Clear

Low-grade

flour, whole-grain Flour made from the whole grain. Storage: tightly covered; cool or refrigerate in a dry place; will keep for 5 months; freeze for longer storage.

flour, whole-meal Flour that contains the germ and most of the husk

flour, whole-wheat (entire-wheat flour) A flour made from the entire wheat grain (durum or red durum wheat is not used) after removal of the outer coating of bran; may also be made from the germ, the endosperm, and the outer layer of grain bran (where the B vitamins and minerals are concentrated); it contains all the B vitamins, iron, and fiber of the whole kernel. Because of weaker gluten strength, bread made from this flour will rise less, be heavier, and have a coarser texture. Whole-wheat flour is sometimes called graham flour, but is more finely granulated than graham flour.

$3\frac{1}{3}$ cups = 1 lb

1 cup, stirred, spooned = 4.8 oz

When using whole-wheat flour:

1. Add the whole-wheat flour first.

2. Mix for a shorter time.

3. Decrease baking temperature by 25°F.

4. Stir before measuring; do not sift.

Composition: moisture 12%; protein 9–13%; fat 2–5%; carbohydrate 71–75%; ash 1–2%

Storage: airtight container in the refrigerator; for longer storage keep in the freezer.

flower The pigmented blossom of a plant, containing the reproductive organs (anther, ovary, pistils, etc.) See Part 2: Flower, Imperfect; Flower, Perfect

flower cheese An English, soft-cured, rennet cheese made from whole cow's milk with flower petals added

flowering Chinese cabbage See **Chinese cabbage**

flowers of zinc See **zinc oxide**

fluffy Describes a soft, downy, light, airy texture

fluffy dressing See Part 2: Salad Dressing and Mayonnaise Variations

fluid A liquid or a gas, e.g., moisture

fluidized bed A process where a fluid is passed upward through a bed of solids at a rate fast enough for the particles to remain free

fluke (*Paralichthys* spp.) A food fish

Fourspot (*P. oblongus*)

Gulf (*P. albigutta*)

Southern (*P. lethostigma*)

Summer (*P. dentatus*)

See **flounder**; **plaice**

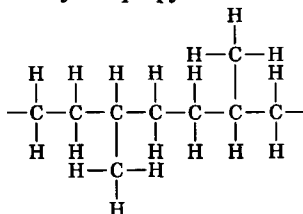
flummery (**flomery**; **flumery**) A sour (made with buttermilk, milk, or yogurt) cereal-grain gruel; a jelly-type sweet; a custard pudding; a blanchmange

fluorescence The ability of a compound (anthracene, fluorescein) to absorb light of one wavelength and radiate light at another wavelength

fluoridation Addition of small quantities of fluoride to potable water to bring fluoride content to 1.0–1.12 mg/l; the purpose is to reduce dental cavities.

fluoride (**fluorid**) A fluorine compound combined with another element or radical

fluorinated ethylene propylene (FEP)



A flexible, translucent Teflon that is very chemically resistant.

fluorine (**F**) The most active halogen element; at. no. 9; at. wt. 19.00; Group VIIA of the Periodic Table; oxidation state -1 ; electron configuration $2-7$ orbit K L

1 ppm is often added to drinking water: Water fluoridation of 1.8 ppm will produce mottled dental enamel; a solution of 2% is often used to treat teeth.

Body function: necessary for proper mineralization of bone and teeth

See Part 2: Egg Products, Nutritive Value; Minerals (Trace), Limits; Water Drinking Standards

fluorocarbon Any of a class of gaseous compounds produced by adding fluorine in place of hydrogen on hydrocarbons; fluorocarbons were previously used as aerosol propellants, but have been banned due to possible reaction with the ozone layer.

flush 1) To pick (often used with tea). 2) New growth on a tea plant; a tea shoot. 3) To feed females generously for 2 weeks prior to breeding

flushing Giving females high-energy feed for a short time to augment the ovulation rate

flute 1) To make decorative cuts on food, e.g., to cut and serrate the edges. 2) To press dough around edges, e.g., to crimp the edges of a pie crust. 3) A type of French bread. 4) A tall glass. 5) A flat surface on a can. 6) A rib or corrugation

flux A chemical aid to soldering (by removing oxides and accelerating coverage), e.g., alcohol solution of rosin, zinc chloride, and ammonium chloride

fly, horn A small, black fly; a large number will concentrate on a small area of an animal.

fly (**horsefly**) A large black fly

fly (**housefly**) A parasite that can transmit various diseases, e.g., cholera, dysentery, salmonella, and typhoid

flyer A silent cutter

flying Chopping

flying fish Any of several species of the genus *Cypselurus*, *Prognichthys agoo*, and *Hirundichthys affinis*; used as food fish

fly-poison A plant having a toxic principle

See Part 2: Poisonous Plants

fly specks A fungal disease that appears as sharply defined black shiny dots in groups of 10–20 on the surface of apple or pear fruit

Control: fungicide spray

Fm The symbol for the element fermium

F35M hajna See Part 2: Microorganism, Media

FNB Food and Nutrition Board

FNS See **Food and Nutrition Service**

foal A colt or filly less than one year old

foam A gas dispersed in a liquid or solid; such dispersions are often of colloidal dimensions. Soapsuds and ordinary seafoam are examples of gas (air)–liquid dispersions; bread and cake are examples of gas (CO_2)–solid dispersions. During frying, foam is caused by fat breakdown or the presence of foreign materials.

foam glass See Part 2: Insulation

foaming The development and persistence of bubbles on the surface

foaming agent A substance that regulates the amount of air (often increasing it) in a product, e.g., sodium caseinate

foam inhibitor An additive that prevents the formation of foam in foods during processing

foam-mat drying Processing food by concentrating the food in liquid form, whipping it to a foam, spreading it on a tray, and drying it with forced warm air

foam test A test performed under prescribed conditions to indicate relative stabilities of fats by their tendencies to break down and foam during frying

foamy Having a bubbly or frothy texture

fob See **free on board**

fob, stowed, trimmed (FST) The seller places grain at the end of the loading spout and also provides and pays for the stevedoring cost to stow and trim the cargo in the ship's holds; the buyer provides the ocean vessel.

306 focal infection

focal infection A local infection that allows microorganisms to enter the bloodstream continuously or intermittently

fodder Fresh or cured plant matter, containing ears or seed heads if any *See* **corn, aerial part**

fog A colloidal system in which a liquid is dispersed in a gas (air)

foggiano A hard, dry, low-fat, grating cheese made from ewe's milk (may also contain cow's or goat's milk)

foie Liver

foie gras A paste made from the liver of goose, duck, or other poultry

foil Usually refers to aluminum foil

folacin Folic acid

See Part 2: Recommended Daily Dietary Allowances

fold 1) To combine two ingredients gently by turning over until well mixed; to incorporate gently one ingredient into another; mixing materials by lifting and dropping, usually with a tool. 2) The strength of flavoring material expressed as a multiple of a standard

fol d'amour A semisoft, mild, oval-shaped, double-cream cheese made from cow's milk and covered in white mold

folded rib roast A standing rib roast with a portion of the ribs removed and the roast folded

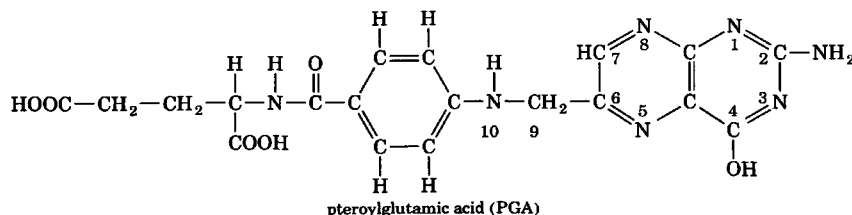
fold in To mix a light ingredient with a thicker mixture using a gentle over and over motion

folding Gently combining a mixture

foliar Relating to leaves, e.g., feeding plants via the leaves rather than by the roots

foliar feeding Giving nutrients to a plant via the leaves rather than by the roots

folic acid [folacin; leaf acid; pteroylglutamic acid (PGA); vitamin M]



A yellow-orange factor necessary for the production of red and white blood cells; related to enzymes capable of transferring one-carbon units (formyl group, —CHO) in metabolic reactions; found in the liver in the form of pteroylglutamic acid; part of the B-vitamin complex and used as a nutrient in food
Sources: liver, kidney, dried beans, beef, yeast, green leafy vegetables, wheat, and mushrooms

See Part 2: Cereal Fortification; Cereals, Vitamin and Mineral Content; Cheese, Vitamin Content; Egg Products, Nutritive Value; Grain Analysis; Lemon Juice, Composition; Milk and Milk Products, Vitamin Content; Vitamins; Vitamin Sources, Functions, and

Stability; Wheat Products, Composition; Wheat, Vitamins

folle blanche A dry, fruity, chablis-type, white table wine

follicle The structure in an ovary that contains an ovum before ovulation; formed by oogenesis from an oocyte

follicle-stimulating hormone (FSH) A hormone that is secreted from the anterior of the pituitary and stimulates rapid growth of follicles in the ovary

fomite An object that has been contaminated by a diseased individual

fond Gravy

fondant 1) An aqueous solution of invert sugar and corn syrup used by confectioners. 2) A candy made by cooking (112–115°C, to soft-ball stage) a sucrose solution and then cooling and beating until crystallization occurs. 3) Acid, flavoring, sugar, and water mixed to make a candy. 4) A mixture used to coat nuts and fruit

Candy corn:

20 pieces (1 oz) = 105 calories

Mints:

3 1½-in. mints = 105 calories

See **candy**

See Part 2: Water Activity, Organisms and Food

fondue (fondus; fromage) 1) A general term for processed cheese. 2) A melted spread made from cheese, milk solids, butter, and cream

fondue au marc A processed cheese made from cow's milk, with dried grape seed or rind added

fondue 1) A hot cheese dip, often made from emmenthal, greyerz, gruyère, and/or neuchâtel, that is served with crisp bread or small pieces of toast; often contains alcohol. 2) A vegetable cooked gently in butter until it becomes a puree

fondue au raisin A processed cheese made from cow's milk, with dried grape seed or rind added; cheese coated with grape pits

fondutta A soft (more fat) munster-type cheese

fonfom Balls of cooked maize flour

fontainebleau cheese An unsalted, light-textured, triple-cream, French cream cheese made from cow's milk

fontal A semihard cheese made from cow's milk, with a full, fruity flavor

fontina 1) A sweet, mellow, hard Italian cheese; there are also French and Swiss versions. 2) A semihard

(sometimes soft), pale yellow Swedish cheese made from cow's milk, with a full, fruity flavor and a brushed rind; a buttery smooth, ivory-colored, semisoft cheese with a nutty flavor, in a red wrapper; a creamy, gruyère-type cheese

Composition: moisture 37-38%; protein 25-26%; fat 31-32%; carbohydrate 1-2%; fiber 0%; ash 3-4%
See Part 2: Cheese, Vitamin Content

fontina d'osta A firm, off-white cheese with small holes and a brown rind; 15-in. diam., 4 in. thick

fontine A cheese made from cow's milk

foochow oolong A Chinese oolong tea

food 1) Any substance (nutritive material of plant or animal origin) or mixture (except oxygen and water) that nourishes an organism, builds tissue, and supplies heat. 2) Any nutritive material that is taken into an organism or consumed for maintenance, growth, work, and tissue repair but sometimes consumed for social or other reasons; the term sometimes means only solid food or nutriment; for legal purposes, it may sometimes refer to things that are normally considered nonfood but that are regulated by a governmental food agency. 3) A material recognized as fulfilling physiological functions or social or other needs. 4) A biological material recognized by an individual or a group as fulfilling the physiological needs of the body and usually consumed for that purpose, or sometimes for social or other reasons

See Part 2: Bacterial Food-borne Illnesses; Food Guide; Food, Water Intake

food acceptability A measure of the attitude of people towards foods, particularly unfamiliar foods or familiar foods consumed under unusual conditions

food acceptance The success of introducing any particular food into the diet

food additive A substance intentionally added to food in small quantities to prevent spoilage, to stabilize or to improve its keeping qualities, texture, flavor, or appearance, or to aid in processing; the Food Protection Committee of the Food and Nutrition Board, National Academy of Sciences-National Research Council defines a food additive as "a substance or a mixture of substances, other than a basic foodstuff, that is present in a food as a result of any aspect of production, processing, storage or packaging. The term does not include chance contaminants." The United States Food and Drug Administration has defined a food additive as "any substance the intended use of which results or may be reasonably expected to result, directly or indirectly, in it becoming a component or otherwise affecting the characteristics of any food (including any substance intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting or holding of food; and including any source of radiation intended for such use), if such substance is not generally recognized, among experts qualified by scientific training and experience to evaluate its safety, as having been adequately shown through scientific procedures (or in the case of a substance used in food prior to January 1, 1958, through either scientific procedures or experience based on common use in food) to be safe under the conditions of its intended

use." The Food and Agriculture Organization (FAO) and the World Health Organization (WHO), have defined food additives as "nonnutritive substances added intentionally to foods, generally in small quantities to improve their organoleptic properties." See **additive**

food aid Assistance, rendered on an organized basis, for providing food to a population group

Food and Agricultural Organization (FAO) Specialized agency of the United Nations concerned with the development of world agriculture, fisheries, and forestry, with the production, processing, preservation, and distribution of food, and with the improvement of nutrition; located at Via delle Termi di Caracalla, 00100 Rome, Italy

Food and Drug Administration (FDA) The federal agency responsible for enforcement of the Federal Food, Drug, and Cosmetic Act, which prohibits the movement in interstate commerce of adulterated or misbranded food; this law covers all food (except meat and poultry) as well as drugs, devices, and cosmetics. The FDA protects the consumer by insuring the following:

1. Foods must be pure and wholesome, safe to eat, and produced under sanitary conditions.
2. Drugs and therapeutic devices must be safe and effective when used according to their directions. New drugs must be approved by the FDA before they can go on the market.
3. Cosmetics must be safe.
4. Labeling must be truthful and informative.
5. Drug labeling must include warnings needed for safe use.
6. Drugs that are not safe for self-treatment are restricted to sale by prescription.
7. Drug plants must be inspected by the FDA at least once every 2 yr.
8. Antibiotic drugs, insulin drugs, and colors used in foods, drugs, and cosmetics must be tested in the FDA laboratories before being offered for sale.
9. Chemicals added to foods must be proven safe before they are allowed to be used.
10. Pesticide residues that may remain on raw food crops must not exceed safe limits (tolerances) set by the FDA

Food and Nutrition Board (FNB) A committee of the National Academy of Sciences, established in 1940, that publishes recommended dietary allowances

food and nutrition policy Those aspects of the national policy that are designed to improve the nutritional state of a country

Food and Nutrition Service (FNS) A subdivision of the U.S. Department of Agriculture that administers the food assistance program, whose purpose is to improve the nutritional status of low-income children and adults

food avoidance Exhibiting a negative attitude toward a given type of food

food balance sheet A table of the food supply of a country, showing the types and quantities of food produced, imported, exported, and used for food and other purposes; the table also shows the per capita

308 food balance sheet

supplies available for human consumption in terms of calories and nutrients.

food chain (food web) A trace of the route of protoplasmic material through the various levels of organisms

Food Chemicals Codex See Committee of Food Protection of the National Academy of Science-National Research Council

food color See colorant

food consumption survey A survey that is designed to determine qualitative and/or quantitative information on food consumption

food consumption target An improved food consumption level to be reached by a specified time

food consumption trend How the consumption of food changes with time

food demand The quantity of food that can be sold at a given price at a market during a certain time

food distribution program The Food and Nutrition Service donates food (generally acquired under price support and surplus removal legislation) to various food program outlets—schools, institutions, charitable institutions, nutrition programs, summer camps, disaster relief, needy families, American Indian reservations, in-trust territories, and supplemental food programs

food, drug, and cosmetic colors See FD & C color

food economics The information or economic facts and principles dealing with production, distribution, and consumption of foods

food energy See Calorie

food engineering Using modern engineering techniques in food processing

food fad A fashionable food idea that is popular usually for a short time; the most prevalent problem is the lack of important nutrients.

food for special dietary use Food with special composition or that has been modified by processing to meet a particular need for someone whose assimilation or metabolism has been modified and for whom an effect may be obtained by ingestion

food grains The cereal grains most commonly used for human food, such as wheat, rice, and rye in the United States

food groups

Eleven:

1. Milk
2. Potatoes and sweet potatoes
3. Dry beans, peas, nuts
4. Citrus fruits and tomatoes
5. Green and yellow vegetables
6. Eggs
7. Meat, poultry, and fish
8. Other fruits and vegetables
9. Flour and cereals
10. Fats and oils
11. Sugar, syrup, and preserves

The basic seven:

1. Yellow and green vegetables
2. Citrus fruits, tomatoes, raw cabbage, green salad

3. Potatoes and other fruits and vegetables
4. Milk and milk products
5. Meat, poultry, fish, eggs, dried legumes, nuts, and peanut butter
6. Whole-grain or enriched bread and cereals
7. Butter or fortified margarine

food guide See Part 2: Food Guide

food habits The manner in which foods are selected and consumed in response to physiological, psychological, cultural, and social influence

food hygiene Those measures to secure or to increase the wholesomeness, soundness, and safety of food for human consumption

food irradiation (cold sterilization) The treatment of food with ionizing radiation (electrons or gamma rays) to do the following:

- Reduce microbial growth
- Reduce ripening
- Reduce sprouting
- Disinfect the food

food pathogen Active cultures of microorganisms, such as *Escherichia coli*, *Salmonella* spp., *Staphylococcus aureus*, etc., that are mainly responsible for food poisoning

food patterns The broad picture of the foods consumed by a given community

food poisoning The harmful effects following ingestion of food, resulting from the presence of pathogenic bacteria, the toxic products of fungi and bacteria, an allergic reaction, or chemical contamination See *Clostridium botulinum*; salmonellosis; *Staphylococcus aureus*

See Part 2: Food Poisoning, Bacteria; Infectious Diseases, Food-Borne

food preference Having a positive attitude toward a given type of food

food prohibition A negative behavior toward handling, consuming, or mixing certain types of food

Food Protection Committee A subdivision of the Food and Nutrition Board of the National Research Council that has the following responsibilities:

- Evaluating scientific information on food additives
- Assisting in research on food additives
- Establishing guidelines and processing principles

food record The food consumed, estimated by household measures and recorded in detail daily, meal by meal, during a certain period of time

food relief A supplement to the food supply, on a national or local scale, in the event of a catastrophic food shortage

food rituals Religious or magical ceremonies performed to increase the success of a food-gathering or a food-producing activity

Food Safety Council A nonprofit organization established to develop viable standards for determining the safety and wholesomeness of food and food ingredients

food science The study and application of the properties (chemical, physical, etc.) of foods and their constituents and the changes they undergo in preparation for consumption

food service equipment assistance program Provides funds for eligible schools and residential child care institutions to acquire adequate food service equipment. See **child nutrition program**

food shortage Available food is less than is needed

food stamp program A federal program, initiated in 1961, to help low-income households buy more food by exchanging allotments of food stamps for food at authorized stores

food standards The set of rules defining the criteria that a food must fulfill to be suitable for distribution or sale

food starch, modified Native starches treated with chemical agents to modify their physical properties; used as a food thickener, binder, or colloidal stabilizer. Storage: well-closed container

foodstuff Food considered as an economic commodity

food supplies The domestic or imported food that is available to a population

food supply data (apparent consumption; per capita disappearance) Consumption per capita is the estimate of the total food available for consumption divided by the population

food taboo A negative attitude toward the handling and consuming of a given food

food technology The application of science and technology in the efficient and effective utilization of foods

food tolerance The physiological reaction of a person to consumption of a given food

food utilization 1) The absorption and utilization of nutrients in the body. 2) In food economics, the breakdown into various categories of the uses of the real or potential food supply

food web See **food chain**

foo-foo A soft cassava dumpling

fool 1) Sweet, stewed, pureed fruit (often gooseberries or rhubarb). 2) A dessert made from cream and cooked fruit. 3) See **broad bean**

fool oats See **wild rice**

foot (ft) A measure of length

- 1 ft = 12,000 mils
- = 304.8 millimeters (mm)
- = 30.48006096 centimeters (cm)
- = 12 inches (in.)
- = 3.048006 decimeters (dm)
- = 3 hands (U.S.)
- = 0.33333 yard (yd)
- = 0.3048006 meter (m)
- = 0.06061 rod (rd)
- = 0.0151515 chain (Gunter's)
- = 0.0003048 kilometer (km)
- = 0.0001894 statute mile
- = 0.00016447 U.S. nautical mile

- 3 ft = 1 yd
- 3.28 ft = 1 m

foot and mouth disease A virus-caused disease that affects all cloven-footed animals; it is highly infectious and only partially controlled by vaccines.

foot-candle A unit of illumination

- 1 foot-candle
- = 10.764 lux (lumen per square meter)
- = 1.0764 milliphot
- = 1 lumen per square foot

foot of water A measure of pressure

- 1 foot of water
- = 0.8826 inches of mercury (in. Hg)
- = 0.4334 pounds per square inch (lb/in.²)

foot-pound (ft-lb) A measure of heat, energy, and work

- 1 ft-lb = 13,557,300 ergs (or centimeter-dynes)
- = 13,825.5 gram-centimeters (g-cm)
- = 32.174 foot-poundals
- = 1.35573 joules (J; 1 J = 10⁷ erg)
- = 0.32389 gram-calorie (mean)
- = 0.13826 kilogram-meter (kg-m)
- = 0.001285 British thermal unit (Btu; mean)
- = 0.0003239 kilogram-calorie thermal unit (mean)
- = 0.0000005121 metric horsepower-hour (75 kg-m-h)
- = 0.0000005051 horsepower-hour (hp-h; U.S.)
- = 0.00000037662 kilowatt-hour (kW-h)

foot-pound per minute (ft-lb/min) A measure of power, rate of energy, and heat

- 1 ft-lb/min
- = 0.01667 foot-pound per second (ft-lb/s)
- = 0.001286 British thermal unit per minute (Btu/min)
- = 0.0003241 kilogram-calorie per minute (kg-cal/min)
- = 3.030 × 10⁻⁵ horsepower (hp)
- = 2.260 × 10⁻⁵ kilowatt (kW)

foot-pound per second (ft-lb/s) A measure of power, rate of energy, and heat

- 1 ft-lb/s
- = 13,557,300 ergs per second (erg/s)
- = 13,825.5 gram-centimeters per second (g-cm/s)
- = 60 foot-pounds per minute (ft-lb/min)
- = 1.35573 watts (W; 1 W = 10⁷ erg/s)
- = 0.13826 kilogram meter per second (kg-m/s)
- = 0.077124 British thermal units per minute (Btu/min; mean)
- = 0.01945 kilogram-calorie per minute (kg-cal/min)
- = 0.001843 metric horsepower (75 kg-m/s)
- = 0.001818 horsepower (hp; U.S.; 1 hp = 550 ft-lb/s)
- = 0.001356 kilowatt (kW)
- = 0.001285 British thermal unit per second (Btu/s)
- = 0.0003237 kilogram-calorie per second (kg-cal/s; thermal unit per second)

foot rot (foul foot) 1) An infection of the foot of cattle and sheep causing swelling around the top of the foot and inflammation between digits. Treatment: Soak in 5% copper sulfate.

2) Crown rot, an early-ripening disease of wheat; caused by *Cochliobolus sativus* and a *Fusarium* sp.

310 foot rot (foul foot)

- 3) Die-off, a disease of the sweet potato (caused by *Plenodomus destruens*); the plant dies and the sweet potatoes develop a brown, firm rot
- foots** Soap stock, alkali soap; the liquid remaining after rendering fat or oil from animal tissue *See also* soap stock
- fooyong (fuyong; fu yung)** Any of various types of omelet (using eggs), often covered with gravy
- foo-yue** Sufu soybean curd
- forage** Fresh, dried, or ensiled vegetative plants
- foramen** An opening in a bone
- forati** *See* spaghetti
- foratini** *See* spaghetti
- Forbidden Fruit** A liqueur made from orange, grapefruit, honey, and brandy *See* grapefruit
- forcemeat** Meat that has been chopped fine, spiced, and highly seasoned; used as a stuffing for fowl, heart, fish, rabbit, veal, etc.
- forcing** Growing a plant indoors during the winter, e.g., growing rhubarb from large crowns
- Ford Foundation** A philanthropic organization located at 320 East 43d Street, New York, NY 10017
- fore end** Shoulders from Wiltshire sides
- forefoot** *See* Part 2: Bone; Pork Wholesale Cuts
- foreign flavor** A flavor not usually associated with the product
- foreleg** *See* Part 2: Bone Age
- forequarter** The front portion of a beef carcass that has usually been divided between the 12th and 13th ribs (approx. 52% of carcass), less any or all of the ribeye roll (cube roll), the chuck tender, and the shin/shank; it is usually divided into wholesale cuts called chuck, rib, brisket, shank, plate, and short ribs.
- forequarter meat** The front quarter of a carcass less any or all of the ribeye roll (cube roll), the chuck tender, and the shin/shank and with no more than one of the following cuts removed: clod, chuck, and neck (clod and sticking)
- foresaddle** A wholesale cut of veal or lamb consisting of all in front of the 12th rib; the two quarters are not split.
See Part 2: Veal Wholesale Cuts
- foreshank** Made up of the ulna and radius of a carcass
See Part 2: Beef Cuts; Bone; Lamb Chart; Lamb Yield
- forestière** Prepared with mushrooms; garnished with fried mushrooms, bacon, and potatoes
- forez cheese (d'Ambert)** A French Roquefort-type cheese
- forget fredette agar** *See* Part 2: Microorganism, Media
- forging** Overreaching or striking the heel of the forefoot with the hindfoot on the same side
- forkbeard, greater (*Phycis blennoides*; *Urophycis blennoides*)** A hake fish
- forkbeard, lesser (*Ranieiceps trifurcus*)** A hake fish
- form** A suffix meaning shape
- formagelle cheese** A soft Italian cheese made from cow's milk, with rennet added
- formaggini** A soft cream cheese
- formaggini cheese** A class of small Italian cheeses
- formaggio** Cheese
- formaggio d'capri** An Italian cheese made from goat's milk
- formaldehyde (methanal) (HCHO)** A poisonous, water-soluble gas that is produced in smoke used for smoking food; used as a fumigant and for smut control
- formalin (formol; formolose)** Commercial formalin is 40% formaldehyde in water; approx. 37% formaldehyde, 10–15% methanol in water (same as 40% formalin); used as a disinfectant (in a 1:2000 to 1:200 solution), fixing fluid, and preservative
- Formate Ricinoleate broth** A medium used for detection of coliform by formation of gas
See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant
- formic acid**



A poisonous liquid found in the venom of ants and bees; mp 8.4°C; bp 100.5°C; commercial acid has sp. gr. 1.20 (90% by wt.) and 1.06 (25% by wt.). It is also found naturally in many plants and, in small concentrations, is usually considered safe to use for food flavoring

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases

Formosa oolong *See* oolong tea

Formosa tea There are several types:

Black

Oolong (excellent)

Oolong, $\frac{3}{4}$ fermented

formula An abbreviation for the name of a chemical compound; it also shows its composition.

formulated meal replacement Food that has been formulated to provide the nutrients required of a single meal

formulation 1) Preparation according to a formula. 2) The addition of alcohol (e.g., brandy) other than that produced in the product; this usually stops fermentation before all the sugar is consumed and leaves the product sweet. 3) In food, the addition of nutrients to maintain or improve the quality of the diet

formyl group (aldehyde group)



A chemical group that is characteristic of aldehydes

fortification The addition of selected nutrients to food to provide higher levels than are naturally present

See Part 2: Cereal Fortification; Dairy Terms

fortified dry wine A dry wine to which brandy has been added to obtain better keeping qualities, flavor, and potency

fortified margarine Margarine to which vitamin A has been added See **margarine**

fortified sweet wine A sweet wine to which wine spirits have been added to obtain better keeping qualities, flavor, and potency

fortified wine A general term for dessert wines or aperitif wines; a wine to which grape spirits have been added during or after fermentation; this increases the strength of the wine: if added during fermentation, it will stop fermentation and produce a sweeter wine, because not all the sugar has been converted to alcohol. Common types are marsala, madeira, port, and sherry.

fortify To add nutrients that may be lacking in the diet; to add nutrients to

fortifying 1) Adding wine spirit to port or sherry. 2) Adding sugar to wine

Fortran (*formula translator*) A high-level programming language used in scientific and engineering applications

fossa A depression in a bone

Foster A variety of late Florida grapefruit

foudre A wine container or cask; in Alsace, 1 foudre holds 220 gal

fou-fou See **foo-foo**

fougère A coulommiers-type cheese made from cow's milk and matured in fern leaves

foulah butter Ghee made from cow's milk

foul foot See **foot rot**

founder Of an animal, to overeat

fourme See **cantal**

fourme d'Ambert (*forez; fourme de Pierre sur Haute; montbrizon*) A blue-veined, unpressed, uncooked French cheese made from cow's milk

fourme de Cantal A hard, pressed, cheddarlike cheese made from cow's milk

fourme de Laguiole A cantal-type cheese

fourme de Rochefort A small (5–10 kg) cantal-type cheese

fourme de Salers A cantal-type cheese; a hard, cheddarlike cheese made from cow's milk

four-seasons sausage A moist, cooked, unsmoked Australian sausage finely chopped, medium-seasoned beef and pork stuffed into artificial casings

four-way cross The offspring from the mating of two single-crosses

fovantini See **macaroni**

fowl A mature hen (chicken), usually more than 10 months old; used for stewing See also **hen**

foxberry See **cranberry**

foxtail A variety of millet

foxy Having the aroma and taste of methyl anthranilate, as in wine made from concord and labrusca-type grapes

FPC See **fish-protein concentrate; fish meal**

fpm Foot per minute

Fr The symbol for the element francium

fraction 1) That component of a mixture that can be separated by distillation (for liquids of different boiling points) or by filtration or centrifugation (for solids of different weights). 2) Refers to one of two types of molecule in a substance [e.g., in starch, the linear (amylose) fraction and the branched (amylopectin) fraction]

fractional crystallization A separation method by which the temperature is slowly lowered, allowing the higher-melting compounds to crystallize

fractional distillation The separation of the components of petroleum (and other liquid mixtures) by boiling off and condensing them in sequence; this is possible because of the wide difference in boiling points of the several components. See also **distillation**

fra-fra (*daso; fabriama; fura-fura*) An edible tuber

fragrant Having a pleasant odor

fraise des bois A brandy distilled from fermented wild strawberries (*Fragaria* spp.)

framboise A brandy distilled from raspberries (*Rubus idaeus*)

francium (**Fr**) An alkali metal element; at. no. 87; Group IA of the Periodic Table; mass number of the most stable isotope's 223; oxidation state +1; electron configuration 2-8-18-32-18-8-1 orbit K L M N O P Q

Franconia An area on the Main river in central Germany that produces several clean, fruity wines; these wines are often called Steinwein and are bottled in a type of flask called bocksbeutel

frangipane 1) A flavor used in pastry stuffing. 2) A rich, flavored cream. 3) A kind of tart

Franken A region in northeastern Germany, along the Main river, that produces a robust, earthy, dry wine sold in flagon-shaped bottles

frankenbrot A large, round bread made from wheat and rye

frankfurter (*frank; franksk wiener; furters; hot dog; red hot; vienna sausage; wiener; wienerwurst; wienies*) A general term for a smoked, fully cooked, mildly seasoned sausage (frankfurter sometimes considered to be larger in diameter than a wiener); may be made with beef and pork or all beef

	Composition				
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Frankfurter					
Beef	54	11.3	29.4	2.4	2.9
Beef and pork	54	11.3	29.1	2.5	3.1
Chicken	57.5	13	19.5	6.8	3.3
Turkey	63	14.3	17.7	1.5	3.5

312 frankfurter

Sodium 639 mg/frankfurter (57 g); cholesterol 112 mg/2 frankfurters (4 oz)

1) A moist, cooked, smoked or unsmoked American sausage made from finely chopped, mildly seasoned beef, pork, and veal stuffed into pork, sheep, or artificial casings; if the product contains variety meats, meat by-products, and/or binders and extenders, it must be so labeled; it is available as a batter-type product in medium- to large-diameter links or large-diameter casings for slicing, and as a comminuted, cooked, smoked, small-casing sausage (normally 60% beef, 40% pork):

Ingredients:

Beef (30–70%)
Pork (25–50%)
Veal (0–40%)
Pork liver and hearts (0–8%)
Defatted pork solids (0–15%)
Tripe (0–20%)
Ice* (20–40%)
Salt* (2–3%)
Sugar* (7–16 oz/100 lb)
Binder (0–7%)
NaNO₂* (2 oz/100 lb)
NaNO₃* (¼ oz/100 lb)
White pepper* (4–7 oz/100 lb)
Coriander* (1–3 oz/100 lb)
Ginger or mace* (1–2 oz/100 lb)
Onion juice (0–3 oz/100 lb)
Cardamon (0–1 oz/100 lb)
Cinnamon (0–1 oz/100 lb)
Sage (0–1 oz/100 lb)
Garlic (0–1 oz/100 lb)
Ascorbate (0–⅞ oz/100 lb)
Mustard (0–1 oz/100 lb)
Nutmeg (0–2 oz/100 lb)

The asterisk indicates the combination of additives used in some formulations.

Procedure:

1. Grind ⅜-in. plate.
2. Mix beef, seasoning, ice, and binder.
3. Chop.
4. Add pork and ascorbate.
5. Chop; max. temp. 65°F
6. Stuff and link.
7. Smoke, using the following conditions.

Temp. (°F)	Time (h)	Condition
130	$\frac{1}{2}$	No smoke
140	$\frac{1}{2}$	Smoke
150	$\frac{1}{4}$	Smoke
160	$\frac{1}{4}$	Smoke
170	$\frac{1}{4}$	Smoke
180	To internal temp. 152°F	Steam

8. Shower for 15 minutes.

9. Cool.

2) A moist, cooked, smoked, fine- or medium-chopped, mild- or medium-seasoned beef, lamb, veal, and goat stuffed into sheep or artificial casings or no casing. 3) A moist, cooked, smoked finely chopped, mildly seasoned (with nitrite) beef and pork stuffed into sheep or artificial casings with a diameter of less than 28

mm. 4) A moist, uncooked, unsmoked Australian sausage made from finely chopped, mildly seasoned beef stuffed into beef or pork casings

Storage (at home): Keep in original wrappers; refrigerate; use within 1 week for best flavor.

See **chicago dog**; **kansas city dog**; **kansas dog**; **new york dog**

See Part 2: Calories, Daily Recommendations; Food, Composition; Meat Composition; Meat, Servings per Pound; Meat Storage; Pork Storage; Sausage Composition; Sausage Identification; Sausage, Nutritive Value; Sausage, Types

frankfurter, chicken Composition: sodium 617 mg/frankfurter (45 g)

frankfurter, Dutch A moist, cooked, smoked Dutch sausage made from finely chopped, medium-seasoned beef and pork stuffed into sheep or artificial casings or not stuffed into a casing

frankfurter, Irish A moist, cooked, smoked or unsmoked Irish sausage made from finely chopped, mild- or medium-seasoned beef and pork stuffed into sheep or artificial casings

frankfurter, Kosher A moist, cooked, smoked American sausage made from finely chopped, medium-seasoned (with garlic) beef and veal stuffed into an artificial casing; must be produced under rabbinical supervision

frankfurterli A moist, cooked, smoked Swiss sausage made from finely chopped, medium-seasoned pork stuffed into sheep casings

frankfurter, skinless A frankfurter cooked in an artificial casing that is removed after cooking

frankfurter, Uruguayan A moist, cooked, smoked Uruguayan sausage made from finely chopped, mildly seasoned beef stuffed into a pork or sheep casing

frankfurter wurstchen A moist, cooked, smoked eastern German sausage finely chopped, mildly seasoned lamb and pork stuffed into pork or sheep casings

frankincense A fragrant resin, obtained from Arabian and African sources, that gives off an aromatic smoke and is used in religious ceremonies See **olibanum oil**

See Part 2: Essential Oils

frappe 1) A semifrozen ice or fruit juice; a soft sherbet. 2) An iced drink See **candy**

frascati An Italian white wine that is strong and fragrant, with the flavor of golden grape skins; produced near Rome in both dry and abboccato styles

FRBC Fisheries Research Board of Canada

frecciarossa An Italian wine

free alongside (FAS) The seller delivers the cargo to the dock (or in a smaller vessel) beside the buyer's vessel; usually applicable to bagged cargo

free choice Of a food, letting individuals select their own amount (usually refers to consumption); having unlimited access to separate components of the diet

free fatty acid (FFA; F.F.A.) A non-neutralized acid produced by hydrolysis of fat; free fatty acid content is used as a specification for fats used in cooking

(0.05% for a good frying fat, higher levels being indicator of poorer quality). The amount of uncombined fatty acids in living organisms is usually less than 0.5% max. and 1% in emulsifiers. FFA content is determined by mixing hot fat with hot, neutralized ethyl alcohol and then titrating the mixture with a standard weak base; the results usually are expressed as oleic acid. A high level of free fatty acids indicates a poorly refined fat or fat breakdown after manufacturing; in general, FFA content is an indication of the care taken in the collection, washing, processing, and storage of fat; *See also* **acid value**

See Part 2: Free Fatty Acid, Smoke, Flash, and Fire Points

free market A market in which prices are set by competitive forces without government influence

freemartin A sterile female calf twinborn with a male calf

free on board (fob) The seller is responsible for placing grain at the end of the loading spout; the buyer is responsible for providing the ocean vessel.

free radical (·;*) An electrically neutral molecule with an unpaired electron in the outer orbit; a centered dot or asterisk placed as in OH· or OH* designates a free radical.

free residual chlorine The amount of uncombined chlorine measured by the 5-s orthotolidine test

free rotation The production phase when cans roll on the retort shell and agitate the product

free trade A theoretical concept to describe international trade unhampered by government barriers

free water Water that is not an integral part of the living cell with which it is associated

freeze damage Citrus fruit will freeze and show freeze damage at temperatures of 25–30°F (average 27.5°F):

Higher freeze temperatures—tangerines, lemons, and limes

Intermediate freeze temperatures—grapefruit and hybrid fruit

Lower freeze temperatures—oranges

Freezing may occur on the tree or post-harvest.

Evidence of freezing: membranes between segments look soaked and contain a number of white specks (hesperidin crystals or naringin in grapefruit); rind may range from brown to gray; severely frozen fruit will be mushy.

freeze dehydration *See* freeze-drying

freeze-drying (freeze dehydration; lyophilization) 1) A preservation technique by which a food (or heat-labile solution) is frozen and placed in a vacuum; the ice is vaporized (by sublimation) and trapped, leaving a dried product; used especially for coffee and for preservation of microorganisms. 2) Sublimation from the frozen state

freezer If power is lost, keep the door closed.

Number of days contents will remain frozen:

Full freezer—2

Half-full—1

freezer burn Dehydration of frozen food, causing white areas to appear on the surface; can be eliminated by proper wrapping. The condition is harmless but, if extensive, it can cause food to become tough, to lose flavor, and to oxidize.

freeze, sharp- *See* sharp-freezing

freezing Preserving food by storage at low temperature (below 0°F is recommended)

freezing point The temperature at which a liquid becomes a solid; identical to the melting point; water is 32°F (0°C). The depression (in degrees Celsius) of the freezing point of water (for 1 g mol. wt. dissolved in 1 l water) is as follows:

Nonionizing substance (e.g., sugar)—1.86

Ionizing substance (e.g., salt)—3.72

Salt in water (%)	Freezing point (approx.)	
	°F	°C
0	32	0
2.5	29	–2
5	26	–3
7.5	23	–5
10	19	–7
12.5	15	–9
15	10	–12
17.5	5	–15
20	0	–18
22.5	–5	–21

See Part 2: Defrosting Time; Freezer Sizes; Freezing Rate; Thermal-Arrest Time

Freezomint A liqueur flavored with mint

freight equalization A rebate given on transportation costs to meet competition from a supplier with a more convenient plant

Freisa 1) A sweet, sparkling wine made from Nebbioli grapes; also a sparkling red wine; a dry or slightly sweet, Italian red wine. 2) A grape variety

French-Alpine *See* Part 2: Goats, Milk Breeds

French artichoke A vegetable whose flower is used as food

French bean (kidney bean; *Phaseolus vulgaris*) One of many varieties of edible beans that produce a variety of shapes and colors of pods and beans

French bread A long loaf of white, wheat-flour bread with a crisp crust and a soft interior; usually consumed within 6 h of baking

French burnt peanut *See* candy

French-Canadian food habits

Animal products—lard, pork, salt fish

Dairy—little cheese or milk used

Fruit and vegetables—apples, beets, cabbage, peas, pickled green tomatoes, and turnips

Grain products—cake, cornmeal, oatmeal, pastry, and white bread

French-Canadian A hardy breed of dairy cattle, originally from France, that resembles the Jersey; black or black with yellow fawn stripe along the back

French celery *See* Chinese celery

French Charollais *See* Charollais

French colombard A semidry wine with an appealing flavor and bouquet

314 French combing wool

French combing wool Wool that is shorter than normal combing wool yet can be combed on French-style combs

French cream See **candy**

French dressing A temporary emulsion (must be shaken before use) of oil, acid (vinegar or lemon juice), and seasoning; paprika gives it a red color; min. 35% vegetable oil; the emulsifier is egg yolk and designated emulsifiers (max. 0.75%); the acid is vinegar or lemon juice (citric acid can be used for $\frac{1}{4}$ acetic acid in vinegar).

Combination often used: $\frac{3}{4}$ cup salad oil (corn, cottonseed, olive, peanut, or soybean oil); $\frac{1}{4}$ cup vinegar (cider, white, or wine); 1 tsp salt; 1 tsp sugar; dash pepper; $\frac{1}{2}$ tsp paprika; $\frac{1}{4}$ tsp mustard

Other spices sometimes used are basil, celery, cloves, curry, garlic, ginger, nutmeg, onion, oregano, and tarragon; catsup also may be used.

Sodium content:

Home recipe—92 mg/tbsp (14 g)

Bottled—214 mg/tbsp (14 g)

Dry mix, prepared—252 mg/tbsp (14 g)

See Part 2: Fats and Oils, Composition; French Dressing; French Dressing Variations

frenched Beans that have been cut lengthwise into thin slivers

French endive (Monk's beard; witloof chicory)

A salad green with a long, compact head that is grown by placing chicory roots horizontally in moist soil; the pale slender leaves (6–10 in. long) are slightly bitter.

1 cup, trimmed, cut = 1.8 oz

See **chicory**; **endive**

French-fried onions Onion rings that have been dipped in batter and deep-fat fried

French-fried potatoes (chips; French fries) Fingers of deep-fat fried (196–201°C, 385–395°F) potatoes See **French fries**

French fries Potatoes that have been cut into thin strips, soaked in water, deep-fat fried, and sprinkled with salt; they should be moderately crisp on the surface and tender but not soggy throughout; often eaten with catsup

20 fries = 1 serving

Procedure:

1. Use old potatoes.

2. Peel.

3. Cut into strips 2–3 in. long.

4. Soak in cold water for 1 hour.

5. Dry.

6. Cook in deep fat (385°F) for 3 minutes.

Composition: fat 8–12% (absorbed during cooking); sodium 146 mg/2.5 oz (69 g)

10 $3\frac{1}{2} \times \frac{1}{4}$ -in. pieces, fresh = 215 calories

10 $3\frac{1}{2} \times \frac{1}{4}$ -in. pieces, frozen = 170 calories

Storage (frozen): 4 to 8 months at 0°F

French fry To deep-fat fry food

French frying Deep-fat frying food (e.g., eggplant, green peppers, onions, parsnips, potatoes, or sweet potatoes) in fat or oil at 370–385°F

French ice cream In France, ice cream with a high percentage of egg or egg yolks; in the United States, a

high percentage of butterfat or eggs See **ice cream**, **French**

frenching Removing the meat (2 in.) from the end of a bone

French kidney bean See **pea bean**

French leg of lamb The tibia is left in the leg and frenched

French Merino See **Rambouillet**

French mustard See Part 2: Mustard, French

French roast (continental roast; Cuban) A procedure for roasting coffee that produces a deep brown bean with the oil brought to the surface; it is darker than American roast and has a heartier body and sharper taste.

French spinach See **orache**

French-style bean Green beans cut at an angle (or sliced lengthwise) rather than horizontally

French toast Pan-fried bread, usually coated with an egg-milk mixture

French vermouth Dry and pale vermouth

Freon Proprietary name for a series of nonflammable refrigerants based on fluorocarbons

Freon	mp (°C)	bp (°C)
11 Trichloromonofluoromethane	-111	23.7
12 Dichlorodifluoromethane	-158	-29.8
114 1,2-dichloro-1,1,2,2-tetrafluoroethane	-94	4.1
C318 Octafluorocyclobutane	-41.4	-6.0

frequency The number of cycles per second (Hz)

frequency distribution A summary table or graph showing the frequency of occurrence of individual values

fresa A creamy, semisoft, surface-ripened, mild-flavored cheese made from goat's or cow's milk

fresh 1) Describes a cow that has recently given birth to a calf. 2) Of food, recently produced (e.g., freshly baked bread); describes food that has not been frozen; describes a product, as grown, that has not been canned, dried, or processed; contains no preservatives; not stale; recent; new; not deteriorated. 3) Meat that has not been cured or cured and smoked, but that may have been frozen

fresh beef sausage A sausage made from fresh or frozen beef, not including beef by-products; may not contain more than 30% fat and 3% added moisture See **beef sausage**, **fresh**

fresh fish Fish preserved by chilling; thawed fish

fresh freezer accumulation (FFA) Meat that is fresh, partly frozen, or solidly frozen, that has been accumulated in the last 15 days, and is in good condition

fresh frozen Describes fresh meat that has been frozen

freshness date Similar to expiration date but usually allows for normal home storage *See* **quality assurance date**

freshness preservers Emulsifying agents that are used in baked goods to retard the rate of hardening; they do not retard flavor degeneration.

fresh-packed pickles Fresh cucumbers that have been placed in a weak salt brine or weak vinegar-sugar solution and pasteurized (not cooked)

fresh pork sausage A sausage made from fresh or frozen pork, not including pork by-products; cannot contain more than 50% trimmable fat or 3% added moisture

Styles:

Breakfast—fine grind; all pork; seasoned with salt, pepper, and sage; sold in links, patties, or bulk
Country style—coarse grind; all pork; seasoned with salt and pepper, may or may not have sage; often smoked; sold in unlinked casings

See **pork sausage**

fresh receipts Merchandise that has just arrived

fresh sausage A sausage that is made from comminuted fresh meats, such as beef and pork, and is seasoned but not cured or smoked; it may be stuffed into casings or sold in bulk form and needs to be fully cooked before consumption; e.g., brockwurst, country-style pork sausage, fresh pork sausage, Italian-style sausage, pork sausage roll

fresh smoked sausage Made from fresh, uncured meats and lightly smoked; it is not thoroughly cooked, however, and must be fully cooked before eating.

freshwater drum (*Aplodinotus grunniens*) A food fish

freshwater fish (Including ocean-dwelling fish caught in fresh water) Fish caught in fresh water, i.e., Pacific salmon, Atlantic salmon, and salmon trout; composition of edible portion 16% avg. protein; up to 20% fat in salmon

fressures A moist, cooked, unsmoked French blood sausage medium-chopped, medium-seasoned (with onions and bread) pork, with meat, head, and rinds and not stuffed into a casing

friable Easily pulverized or broken

friandises Glazed fruit and small cakes

fricandeau 1) Veal or other meat that is larded, glazed, and braised. 2) Slices of braised fish

fricandelles (*fricadelles*) Fried meat balls made from beef or veal

fricase Meat with sauce

fricassee 1) To cook fowl, veal, or rabbit by braising or by braising and stewing; braised meat. 2) A type of ragout made by browning a meat that is then cooked covered in a sauce or liquid

See Part 2: Braising Meat

friction plug A closure held in place by friction

fries The testicles of food animals

friesche kaas cheese A soft cheese made in The Netherlands

Friesian 1) A European black and white cattle; a mature bull weighs 2200 lb. *See* **Holstein-Friesian**. 2) A cheese flavored with cloves and cumin

Friesian clove A semihard, reduced-fat, usually wheel-shaped cheese made from cow's milk and flavored with cloves

Friewer Shaughnessy medium *See* Part 2: Microorganism Reactions on Differential Tube Media

frigate mackerel (*Auxis thazard*) A food fish

frijole A bean, usually meaning pinto bean *See* **bean, pinto**

frikandel (*frikadel*) A moist, cooked, unsmoked Dutch sausage made from finely chopped, heavily seasoned beef and pork that is not stuffed into a casing

frill treatment The application of herbicide to a frilled area (cut) in the trunk of a woody plant

frinault A soft cheese, made from cow's milk, with a blue rind

frischkäse A fresh, soft cream cheese made from cow's milk

frit Fried

fritted glass Ground glass that has been fused to form a sheet of filtering (porous) material

fritter A deep-fried [in oil, 177–190°C (350–375°F)] ball of dough in which apples, bananas, vegetables, cheese, etc., are enclosed

See Part 2: Frying Time

fritterkorn (*kornlet*) A thick liquid that is obtained by boiling the milky liquid pressed from fresh corn kernels; used for making corn fritters, griddle cakes, muffins, puddings, and soups

fritto-misto A mixed grill of deep-fried meat or vegetables

fritz A moist, cooked, unsmoked Australian sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

frilans A cheddar-type cheese

frizze (*frizzie*; *sopressata*; *sopressata*) 1) A dry (moisture-to-protein ratio 1.6:1 or less), irregularly shaped French-Italian sausage similar to unsmoked pepperoni; a dry sausage made from coarsely chopped, cured lean pork and a small quantity of cured lean beef; it is highly spiced and may be hot or sweet; not smoked; air-dried for 60–90 days

Types: hot spice; sweet spice

2) A dried pork and beef sausage that is stuffed in a hog middle and dried without smoking for 60–90 days; it has a crinkled shape.

See Part 2: Sausage Identification

frizzle To fry thin meat at high temperature until the edges curl *See* **salami**; **sopressata**

frog [*Rana* spp. (of the family Ranidae)] A web-footed, smooth-skinned, amphibious animal that lives around water and is capable of jumping long distances; the rear legs of larger frogs are used for food (in season May–September).

Types:

Bull or bellowing (*R. catesbeiana*)

Green (*R. esculenta*)

316 frog [*Rana* spp. (of the family Ranidae)]

Leopard (*R. pipiens*)

Mute

Equivalents:

1 pair of legs, jumbo size = $\frac{1}{2}$ lb

4 pairs of legs = 1 serving

Bones are removed when the product is canned.

See Part 2: Minerals, Food; Portion Size

frogeye leaf spot See **black rot**

fromage Cheese

fromage à la crème A cream cheese made from cow's milk

fromage, au With cheese

See Part 2: Milk and Cheese, Composition

fromage blanc A fresh cheese made from whole milk that is allowed to sour and is then drained; a thick curd cheese

fromage de Bruxelles A soft, fermented cheese made from skimmed cow's milk See **brusselskaas**

fromage de la mothe See **chèvre à la feuille**

fromage de monsieur A white, creamy, fermented cheese made from cow's milk

fromage de Troyes A ricot-type cheese matured in wood ashes See **barbercy**

fromage fort A flavored cheese paste

fromage frais Fresh cheese

fromage sec A pepper-covered, dry cheese made from cow's milk

fromaggio Cheese

fromgey A white cheese made from cow's milk

front end of machine The feed end of a machine

frontignan A sweet French dessert wine

frost 1) To cover with frostings. 2) To chill until covered with ice crystals, e.g., by storing wet glasses in the freezer

See Part 2: Frost Date, Autumn; Frost Date, Spring

frosted 1) A glass, used for beverages, that is ice- or frost-covered, accomplished by allowing atmospheric condensation to collect on a cold glass. 2) A milk shake with dissolved ice cream

frostfish A codlike fish See **whiting**

frosting (icing) 1) A sweet material that is placed on the top and sides of a cake to add to the color, flavor, and texture of the cake; when used between layers, it is often called a filling. 2) Chilling a glass and allowing atmospheric moisture to condense on the cold surface

frosting temperature See **candy**

frothing Coating with flour and exposing to high heat

frozen concentrated juices USDA grades: U.S. Grade A; U.S. Grade B; U.S. Grade C

frozen custard A frozen mixture containing a custard base of cooked eggs and milk See **ice cream, French**

frozen dessert Storage: tightly covered in freezer, use within 1 week; below 0°F use within 1 month; keeping hard-frozen prevents the formation of ice

crystals. Before serving, place in the refrigerator for 10 (1 pt) to 20 ($\frac{1}{2}$ gal) minutes.

See Part 2: Creams, Butter, and Frozen Desserts; Dairy Terms

frozen dinner A frozen meal that must include three separate dishes from the following groups: cereal-based products; cheese; eggs; fish; meat; potatoes; poultry; rice; vegetables

frozen food Food kept at or below zero degrees Fahrenheit (-17.5°C); cooking time for frozen vegetables is approximately one-half that required for fresh vegetables.

Advantages of frozen food:

Available all year

Color and flavor preserved

Nutrient content stable for months

Usually unsalted

Disadvantages of frozen food:

High cost of appliance and energy

Possibility of freezer burn

Risk of repeated thawing

Texture deterioration

Storage: can be stored in the freezing unit inside a refrigerator for 1 week

See Part 2: Fruit, Frozen Yield; Meat, Frozen Storage; Meat Storage; Microbiological Media; Poultry Cooking, Frozen; Vegetable Frozen Yield; Vegetables, Boiling Time, Frozen; Vegetables, Cooking Frozen

frozen fruit Fruit that has been preserved by freezing; enzymatic darkening occurs in peaches during frozen storage unless they are packed in a syrup containing ascorbic acid (an oxidation inhibitor) and are properly packaged to reduce the amount of oxygen reaching the food.

See Part 2: Fruit Servings per Pound

frozen fruit juice Fruit juice (often concentrated) that has been preserved by freezing

Storage: Keep frozen; cover reconstituted fruit juice and keep in refrigerator in glass or plastic container

frozen, sharp- See **sharp-freezing**

frozen storage If the freezer stops, food will remain frozen for the following times:

Fully loaded, door closed—2 days

Half-loaded, door closed—1 day

With 25 lb dry ice, 10-ft³ freezer

Fully loaded—3–4 days

Half-loaded—2–3 days

With 50 lb dry ice, 20-ft³

Fully loaded—3–4 days

Half-loaded—2–3 days

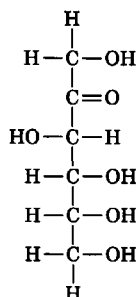
Food can be refrozen if the temperature is less than 40°F for no more than 2 days.

See Part 2: Baked Products, Frozen Storage Life; Frozen Food Containers; Frozen Food Storage

frozen vegetables Vegetables that have been preserved by freezing; vegetables (e.g., corn, green beans, lima beans, peas) can deteriorate enzymatically during frozen storage; they are normally heated briefly to 100°C to destroy the enzymes prior to freezing.

fructose (fruit sugar; levulose) ($\text{C}_6\text{H}_{12}\text{O}_6$) A six-carbon monosaccharide (hexose) that is widely distributed in nature; 173% as sweet as sucrose; mp

103°C; found naturally in honey and fruits



Pure fructose is produced from sucrose; high-fructose syrup is derived from corn. Fructose is used to prevent graininess in ice cream.

Available forms: granular; liquid; powder; tablet *See corn syrup, high-fructose*

See Part 2: Honey Composition; Sugar, Fruit; Sugar, Legumes; Sugar, Vegetables; Sweeteners, Sweetness; Sweetening Agents; Sweetening Compounds

frufu Yogurt

frühstück (breakfast cheese; lunch cheese) A small, round, limburger-type cheese

frühstückskäse A soft to semisoft, limburger-like, strongly flavored, surface-bacteria-ripened cheese made from skimmed cow's milk

fruit The edible tissue resulting from the flower of a plant and usually containing the ripened seed; formed from the ovary of the flower

Classes: berries; capsules; citrus; pepos; pomes; stone-bearing

Cooking in liquid:

Dense syrup—large shrinkage and hardening

Syrup of 2 parts water to 1 part sugar—desirable for most fruit; slight shrinkage; yields a more transparent product

Water—used for fruit that is to be cooked to a smooth pulp; sugar, if desired, is added after cooking.

Grade	Quality
U.S. Fancy	Premium
U.S. No. 1	Good (most fruit)
U.S. No. 2	Medium
U.S. No. 3	Lowest

USDA grades

Fresh fruit

U.S. Fancy

U.S. No. 1

U.S. No. 2

Canned, frozen, or dried fruit

U.S. Grade A

U.S. Grade B

U.S. Grade C

Grades for processed fruit:

U.S. Grade A, or Fancy—the very best fruits, with excellent color and uniform size, weight, and shape; having the proper ripeness and few or no

blemishes; excellent to use for special purposes where appearance and flavor are important

U.S. Grade B, or Choice—includes much of the fruit that is processed; very good quality, only slightly less perfect than grade A in color, uniformity, and texture; good flavor and suitable for most uses

U.S. Grade C, or Standard—may contain some broken and uneven pieces; although the flavor may not be as sweet as in higher qualities, these fruits are still good and wholesome; useful where color and texture are not of great importance, such as in puddings, jams, and frozen desserts

Equivalents:

one 16-oz can = 4 $\frac{1}{2}$ -cup servings if liquid is used
= 2-3 servings if drained

one 29-oz can = 7 $\frac{1}{2}$ -cup servings if liquid is used
= 4-5 servings if drained

one lb, dried = 2 cups
= 10 servings

To remove stain from cloth: soak promptly in cold water; launder in hot water; bleach if necessary.

Storage: can be frozen (0°F max.)

See also vegetable

See Part 2: Calcium; Calories, Daily Recommendations; Canned Spoilage Related to pH; Citrus Fruit Storage; Food, Composition; Food Guide; Frozen Food Storage; Fruit and Nut Rootstock; Fruit and Vegetables, Diseases; Fruit and Vegetables, Composition; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Cooking; Fruit Dressing; Fruit, Dried, Simmering; Fruit, Frozen Yield; Fruit Grade Uses; Fruit, Growing Season, Storage Life; Fruit Harvest Dates; Fruit Inspection Labels; Fruit Juice Flavors; Fruit Label; Fruit Salad Dressing; Fruit Sauces; Fruit, Servings per Pound; Fruit, Simmering; Fruit Storage; Microwave Cooking, Fruit; Minerals, Plant or Animal Tissue; Moisture in Biological Materials; Mold, Food; Nicotinic Acid, Food; Nutrients in Crops; Oils, Seeds and Fruit; Organic Acids in Fruits and Vegetables; Portion Size; Potassium-Rich Foods; Riboflavin, Food; Rot Spoilage; Salad Dressing and Mayonnaise Variations; Spoilage, Carbohydrate Foods; Standards, Processed Fruit and Vegetable Products; Storage Times; Sugar, Fruit; Thiamin, Food; Vitamin A, Daily Recommendations; Vitamin A, Food

fruit acid An acid that was originally found in fruit, e.g., malic acid (in apples) and tartaric acid (in grapes)

fruit acid added Indicates that fruit acid has been added to a product to give jellying properties

fruit bread A tea bread

fruit butter *See butter, fruit*

fruitcake A rich cake containing raisins and candied fruit; one $2 \times 1\frac{1}{2} \times \frac{1}{2}$ -in. slice of dark fruitcake contains 55 calories.

Storage: dampen cheesecloth with brandy, bourbon, or spirits and wrap cake in the cloth; place in a cake tin or wrap in aluminum foil and refrigerate; will keep for several weeks

See Part 2: Baked Products, Frozen Storage Life; Grain Products, Composition; Water Activity, Organisms and Food

318 fruit, candied

fruit, candied

1 cup, mixed, chopped = 6.4 oz

fruit, canned

16 oz, served with liquid = 4 servings

16 oz, drained = 2-3 servings

Storage: cool, dry place; storage life 1 yr; after opening, can be refrigerated in can (acid fruit and juices may acquire a harmless metallic taste); use within 2-3 days

Freezing does not make the product unsafe unless the seal is broken. Rusting does not make the product unsafe unless the seal is broken.

fruit cheese Made from fruit that has been slowly cooked until soft and thick, e.g., apple and gooseberry, black current, medlars, and quince

fruit cocktail Mixed pieces or sections of fresh or canned fruit, served as an appetizer, sometimes containing whipped cream and served cold; the canned product may also contain added natural and artificial flavors, spices, vinegar, lemon juice or organic acids, or ascorbic acid (no greater than needed to preserve color); contains 5 tsp sugar per 0.5 cup

1 cup = 8-9 oz

Fruit mixture commonly used (pears and peaches must be the greater part):

Bartlett pears, diced (25-45%)

Yellow cling peaches, diced (30-50%)

Red maraschino cherries, halved (2-6%)

Pineapple segments (dices or tidbits) (6-16%)

Green-white seedless grapes, whole (6-20%)

May also contain:

Apples

Apricots

Berries

Sucrose content of syrup:

Extra light—10-14%

Light—14-18%

Heavy—18-22%

Extra heavy—22-35%

See Part 2: Calories, Daily Recommendations; Standards, Processed Fruit and Vegetable Products

fruit cup A dessert made from mixed fruit (canned and/or fresh), sometimes with whipped cream; served cold

fruit, dehydrated Fruit that has been dried to a maximum moisture level of 18-25%

fruit, dried See dried fruit

fruit fly (*Rhagoletis cingulata*; *R. fausta*) A fruit pest, approximately two-thirds the size of a housefly, that causes mis-shapen and prematurely colored fruit
See cherry fruit fly

fruit for salad (salad fruit) Grade A quality canned fruits that are used to make salads; one container has equal amounts of quarters or large slices of the following:

Apricots (halves)

Bartlett pears (halves, quarters, sixths, or eighths)

Maraschino-style red cherries, whole (or pitted white cherries)

Pears

Pineapple (large segments, broken slices)

Yellow cling peaches (halves, quarters, sixths, or eighths)

Packed in heavy or extra-heavy syrup

fruit grade

Fresh, consumer:

U.S. Grades A, B, C

Fresh, wholesale:

U.S. Extra Fancy

U.S. Fancy—for some fruits, this is the top grade.

U.S. No. 1

U.S. Utility or U.S. No. 2

No. 1 cookers

Combination

Processed:

U.S. Grade A or U.S. Fancy

U.S. Grade B, U.S. Choice, or U.S. Extra Standard

U.S. Grade C or U.S. Standard—thrift quality

fruit ice A tart, frozen dessert made from water, sugar, and fruit juice

fruit juice Can be used as a natural food additive to color food

Storage life: home-frozen (0°F)—4-6 months; frozen concentrate, opened and reconstituted—use within 2-3 days

See juice, fruit

See Part 2: Fruit Juice Flavors; Minerals (Trace), Limits; Spoilage, Carbohydrate Foods; Stabilizers, Thickeners

fruit kernel The soft, edible part within the hard shell of the stone or nut of a fruit; sometimes used to make liqueurs

fruitlet black rot See brown rot

fruitlet brown rot See brown rot

fruitlet core rot See brown rot

fruit liqueur A beverage with high alcohol content and various degrees of sweetness, made by soaking extracts of fruit in spirits

fruit moth See oriental fruit moth

fruit moth, oriental The larva is a pinkish white worm ($\frac{1}{2}$ in. long), with a brown head, that feeds on growing twigs and maturing fruit

fruit, pickled Fruit that has been pickled with salt and allowed to ferment

fruit rot (*Alternaria* spp.; *Botrytis cinerea*; *Cladosporium* spp.; *Penicillium* spp.) A fungal disease of the raspberry and blackberry, causing the fruit to become soft, watery, and often covered with a (moldy) growth of fungus; warm, wet weather favors development of fruit rot. Gray mold fruit rot caused by *Botrytis cinerea* is the most common fruit rot of raspberries and blackberries in the field.

Control: Pick only sound berries; handle with care and do not bruise; refrigerate; use fungicide spray.

See heart rot

fruit-set The development of the ovary after fertilization of the egg(s) when swelling of the ovary is noticeable

fruit sugar See fructose

See Part 2: Sweetening Compounds

fruit vinegar Vinegar made from citrus fruit, dates, or bananas

fruitworm The larva of various species whose hosts are cranberry, blueberry, and other fruits; damage is caused by larvae feeding on the fruit.

Control: insecticides

See **cherry fruitworm**; **green fruitworm**

fruity flavor A flavor that is aromatic or fruitlike

frukostkorv A moist, cooked, smoked Swedish sausage made from mildly seasoned beef and pork stuffed into a pork casing

Composition: moisture 65% max.; fat 23% max.; binder 3% max.

frumenty A sour gruel of wheat with milk

frutigtal A Swiss cheese made from cow's milk

fry 1) To cook in fat

Types of frying:

Pan fry or sauté—to cook in $\frac{1}{4}$ – $\frac{1}{2}$ in. of fat

Deep-fat or French fry—to cook in fat deep enough to cover food

To brown previously cooked foods—375–390°F (190–200°C)

To cook and brown raw foods—360–375°F (182–190°C); croquettes 375–400°F; french-fried onions 385–400°F; french-fried potatoes 385–400°F; fritters 360–375°F

2) Small, young fish; whitebait fish See **whitebait**.

3) The intestines of pigs and lambs

See Part 2: Frying Time; Lamb Cuts and Uses; Pork Cuts and Uses; Poultry Class; Variety Meat Preparation; Veal Cuts and Uses; Vitamin Retention, Meat

fryer A chicken intended to be cooked by frying; usually larger than a broiler; a young chicken from $3\frac{1}{4}$ to $4\frac{1}{4}$ lb See **broiler**

See Part 2: Poultry Roasting

fryer-roaster (fryer-roaster turkey) A turkey of either sex that is about 16 weeks old and is tendermeated with soft, pliable, smooth-textured skin and flexible breastbone cartilage

fry test A test made under controlled and specified conditions to indicate relative stability of fat or oil by such parameters as the tendencies to smoke, discolor, or foam

FSH See **follicle-stimulating hormone**

FSIS Food Safety and Inspection Service of the USDA [formerly Food Safety and Quality Service (FSQS)]

FSQS Food Safety and Quality Service of the USDA See **FSIS**

FST See **fob, stowed, trimmed**

F test A test of the hypothesis that two population variances (s_1^2 and s_2^2) are equal; the variance ratio is computed and compared to a table of *F* values.

See Part 2: *F*-Distribution

ftinoporino A cheese made from sheep's milk

fuba Corn bread

fuchsin lactose broth A selective medium used in examination of water for *Escherichia coli*; the basic fuchsin dye inhibits gram-positive organisms.

See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

fuder A wine container or cask made from oak
1 fuder = 220 (gal)

fudge A confection consisting of a flavored, supersaturated sugar solution; a crystalline candy made by mixing granulated sugar (2 cups), milk (1 cup), butter (1 tbsp) chocolate ($1\frac{1}{2}$ –2 oz) or cocoa (4–7 tbsp) and cooked to 112–113°C (240°F)

Vanilla or chocolate:

1 oz, plain = 115 calories

1 1-in. cube, plain = 85 calories

1 oz, with nuts = 120 calories

1 1-in. cube, with nuts = 90 calories

See Part 2: Calories, Daily Recommendations; Sugars and Sweets, Composition

fuel A carbonaceous solid, liquid, or gas used for heating and cooking

See Part 2: Fuel, Heating Value

fu-fu See **foo-foo**

-fug- (-fuge-) A syllable meaning flee or avoid

fugu Globefish

fu-ju A sufu soybean curd

fula Balls (50 g) of cooked millet flour, sometimes with maize, rice, or sorghum flour; also a beverage, when mixed with water or milk

fulani cheese A cheese made from cow's or goat's milk that is coagulated by the water extract of leaves of *Calotropis procera*; the curds are drained and pressed and may be dipped in red material obtained from sorghum stalks, rolled into balls, and sun-dried

fuli See **kumiss**

full 1) Describes a tea that has strength but no bitterness. 2) Describes a wine with abundant mineral salts and alcohol

full bloom Having two-thirds or more of the plants in bloom

fuller's earth A refining agent for fats and oils, composed of colloidal clay and silicious material

full-fat soy flour A flour made from soybeans that are hulled, ground, and processed without fat removal; up to 23% fat and 43% protein

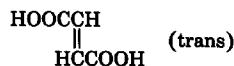
full-feed To provide an animal with as much material as it will consume

full-panel easy-open end A can with a scored panel on the metal end that has a tab attached, allowing the entire panel to be removed

full pension (American plan) The same as the American plan, which includes three meals daily in the room rate (breakfast is Continental)

fully cooked Describes food that has been cooked during the smoking process and can be served without further cooking; however, heating will develop additional flavor. The product should be refrigerated. See **cooked**; **smoked temperature**

fumaric acid



A white, odorless, organic acid that is used in beverages and baking powder and as an antioxidant; also used to add tartness to dry foods (67–72% as tart as

320 fumaric acid

- anhydrous citric acid) and as a food acidifier, a pH control agent, and a flavoring agent
Storage: well-closed container
See Part 2: Acidulants; Maple Syrup Composition; Organic Acids in Fruits and Vegetables
- fumeol** Refined smoke used to make liquid smoke
- fumet** An essence of fish, meat, or game
- fumigation** Killing pests (e.g., vermin, insects, bacteria, mold) by exposure to fumes or gases
Commonly used fumigants: ethylene oxide; hydrogen cyanide; methyl bromide; sulfur dioxide
See Part 2: Fumigants
- funazushi** A dark, salty, fermented, carp paste, with cooked rice containing koji
- fundus** The lower portion of the stomach; base; bottom
- fungal amylase** An enzyme produced by *Aspergillus oryzae*
- Fungcheng (rice-bran pig)** A prolific, black, razor-back, bacon pig from Kiangsu province, China
- Fungi** A higher order (division) of the protista kingdom whose members do not contain chlorophyll and therefore are unable to synthesize their own foods, obtaining their nourishment from dead or living organic matter; they range in size from single-celled microscopic yeasts to multicellular plants (the body of such a plant being known as mycelium) reproduce by fission, budding, or spores; e.g., molds, mushrooms, slime molds, toadstools, and yeasts
See Part 2: Fungi Food Products; Microorganism, Media
- fungicide** A chemical used to kill, to destroy, or to protect against fungi (and other related growths) on plants; e.g., sulfur, lime, Bordeaux mixture See **pesticide**
- fungistat** A substance used to prevent the growth of fungus
- fungus** A plant, without chlorophyll, that reproduces by spores See **fungi**
- F₀ unit** Heat treatment equivalent to the number of minutes at 250°F
- F unit** The thermal death time of organisms may be expressed as F values with a subscript indicating the temperature in degrees Fahrenheit (e.g., F₂₀₀).
See Part 2: Thermal-Death-Time Curve
- Funk, Casimir** A Polish biochemist who coined the word vitamin from "the amine of life"
- fura** Balls of cooked millet or sorghum flour
- fura-fura** See **fra-fra**
- furazolidone** A drug used in poultry to promote growth, to increase feed efficiency, to maintain feed consumption, and to reduce death losses
- furcellaran (Danish agar; furcelleran)** A gum extracted from a sea-growing red algae (*Furcellaria fastigiata*); a white, odorless, general-purpose, natural colloid that is used in food as a stabilizer, an emulsifier, a thickener, and as a gelling agent

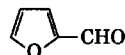
furfural See **oat**

furfurame A baked bread that is made from a dried flour produced by fermentation of the pseudostem of ensete or false banana

furlong (fur) A unit of linear measure

- 1 fur = 660 feet (ft)
- = 220 yards (yd)
- = 201.168 meters (m)
- = 40 rods (rd)
- = 0.125 mile (mi)
- 8 furlongs = 1 statute mile

furmural



Used as a flavoring agent in food; sp. gr. 1.154–1.158
Storage (short-term): tight, glass container in a dark place

furrotake Straw mushroom

fur-sheep See Part 2: Sheep Breeds

fu-ru A sufu soybean curd

fusarium A fungal disease that affects tomato plants
Control: Change plots every year or plant one of the resistant varieties.

See Part 2: Mold, Food; Molds, Mycotoxins

fusarium brown rot A decay of oranges and lemons that is caused by several species of the genus *Fusarium* and occurs on fruit held in storage for long periods; infection starts at the stem end as a soft brown spot and the fungus grows through the center of the fruit, causing internal breakdown and reddish brown discoloration.

Storage: 40°F (suppresses development)

fusarium stalk rot See Part 2: Sorghum Diseases

fusarium wilt A fungal disease; the first symptom in tomato plants is yellowed leaves, which gradually wilt and die; it continues up the stem until the foliage is killed and the plant dies.

Control: plant resistant varieties

See **stem rot**

fused rock phosphate A fertilizer material that contains 30% total P₂O₅

fusel oil A by-product of alcohol fermentation containing a high percentage of mixed amyl alcohols

fusion point See **heat of fusion; melting point**

fu-su A sufu soybean curd

futira A wheat pastry filled with dates, honey, raisins, sugar, cinnamon, and cloves

futures The purchase or sale of contracts that call for delivery of a specified volume of a commodity at a specific place and time; contracts for immediate sale but future delivery

futures contract A contract to buy or sell (to make or take delivery) a specific amount of a commodity for delivery at a future time (or period of time) and place; a uniform, transferable contract subject to Exchange rules, requiring that a certain grade of a commodity

is received or delivered at a specific future date; futures contracts are traded under standardized terms; all trades in the same contract have the same unit of trading, the terms of all trades are standardized, and a position may be offset later by an opposite trade in the same contract. One contract for corn, oats, soybeans, or wheat is equivalent to 5000 bushels.

fuyong *See fooyong*

fu-yu A sufu soybean curd

fu yung *See fooyong*

FV *Folio verso* (on the back of the page)

F value *See F unit*

fylde A hard English cheese

fynbo A hard, rich, yellow, gouda-type cheese with holes

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gallbladder A sac or receptacle located close to the liver whose function is storage of bile

See Part 2: Liver

gallego A tilsit-type cheese

galliano Slightly sweet, vanilla-flavored, herb liqueur

gallinaccio (*Cantharellus cibarius*) Mushroom

gallium (Ga) A metallic element; at. no. 31; at. wt. 69.72; Group IIIA of Periodic Table; oxidation state +3; liquid at 85°F; electron configuration 2-8-18-3 orbit K L M N

gall maker An insect that lives inside swellings (galls) on leaves and stems; the larvae are tiny and greenish yellow, yellow-orange, or reddish in color and cause unsightly swelling on leaves and canes and weaken the plant.

gallon (dr gal; dry; dry gal; U.S.) A measure of volume

1 dr gal = 268.803 cubic inches (in.³)
= 4.65460 U.S. liquid quarts (liquid qt; U.S.)
= 4.40492 cubic decimeters (dm³)
= 4 U.S. dry quarts (dry qt)
= 1.16365 U.S. liquid gallons (liquid gal)
= 0.15556 cubic foot (ft³)
= 0.125 U.S. bushel (bu; U.S.)
= 0.005761 cubic yards (yd³)

gallon (Brit.; Canadian; gal; Imp.; imperial; liquid) A measure of volume

1 imperial gal = 4545.96 milliliters (ml)
= 277.274 cubic inches (in.³)
= 160 British fluid ounces (oz; Brit.)
= 10.0221 pounds (lb; av) H₂O at 60°F or 10 lb at 16.7°C (62°F)
= 4.546 liters (l)
= 4.54 cubic decimeters (dm³)
= 4.30128 U.S. liquid quarts (liquid qt; U.S.)
= 4.1267 U.S. dry quarts (dry qt; U.S.)
= 4 British fluid quarts (Brit. fl.)
= 1.20094 U.S. liquid gallons (liquid gal; U.S.)
= 1.0317 U.S. dry gallons (dry gal; U.S.)
= 0.1605 cubic foot (ft³)
= 0.12896 U.S. bushel (bu; U.S.)
= 0.0059429 cubic yard (yd³)
= 4.546 × 10⁻³ cubic meter (m³)

gallon (liquid; liquid gal; U.S.) A measure of volume

1 liquid gal = 61440 minims
= 3785.434 cubic centimeters (m³)
= 3785.33 milliliters (ml)
= 1024 drams (U.S. fl.)
= 231.00 cubic inches (in.³)
= 133.23 ounces (Br. fl.)
= 128 fluid ounces (fl. oz; U.S.)
= 32 gills
= 8.34545 pounds (lb; av) pure H₂O at max. density
= 8.3370 pounds (lb) H₂O at 60°F
= 8.330 pounds (lb) H₂O at 20°C

= 8 pints (pt; liquid)
= 4 U.S. liquid quarts (liquid qt; U.S.)
1 liquid gal
= 3.78533 liters
= 3.43747 U.S. dry quarts (dry qt; U.S.)
= 0.85937 U.S. dry gallon (dry gal; U.S.)
= 0.83268 gallon (British)
= 0.13368 cubic foot (ft³)
= 0.10742 U.S. bushel (bu; U.S.)
= 0.004951 cubic yard (yd³)
= 3.785 × 10⁻³ cubic meters (m³)
= 3.78543 cubic decimeter (dm³)
= 0.031746 barrel (U.S. liquid)

See Part 2: Volume; Water, Weight and Volume

gallon (U.S. or Brit.) per acre (gal / acre) Weight per unit of area

1 gal (U.S.)/acre = 9.353 liter per hectare (l/ha)
1 gal (Brit.)/acre = 11.232 l/ha

gallon per minute (gpm) A rate of flow

1 gal/min = 8.0208 cubic feet per hour (ft³/h)
= 0.227 cubic meter per hour (m³/h)
= 0.06308 liter/second (l/s)
= 2.228 × 10⁻³ cubic feet per second (ft³/s)

Galloway A breed of beef cattle that originated in southwestern Scotland; they are black, polled, smaller than the Angus, and have long curly hair

See Part 2: Beef and Dual-Purpose Cattle

gallstone A calculus in the gallbladder usually formed from cholesterol or calcium; they may require surgical removal

gallways A whiskey liqueur flavored with coffee and honey

galotiri A white, brined cheese made from sheep's milk

galvanize To coat with zinc by dipping or electroplating

galvanized See zinc

galvanometer An instrument to measure the direction and potential force of an electrical current

-gam- A syllable used to indicate marriage

Gamay 1) A red wine. 2) A grape used to produce red or rosé table wine

gambrel stick A metal or wooden stick placed in the tendons of the rear legs to support a carcass when it is hung on a rail

game Any edible wild animal or bird hunted either for food or for amusement

Birds: dove; duck; grouse; partridge; pheasant; quail; snipe; turkey; woodcock

Animals: bear; boar; deer; hare; rabbit; raccoon; squirrel

Big game usually refers to deer, moose, etc.

See Part 2: Meat and Meat Products Composition

game chips Thin slices of salted and deep-fried potato

gamel A schnapps-type spirit

gamma (Γ , γ) Greek letter that is the English equivalent of g; third in a series; sometimes used as a

324 gamma (Γ, γ)

metric unit of weight equivalent to a microgram;

1 gamma = 0.001 milligram (mg)

= 0.000001 gram (g)

gamma globulin A protein found in blood and colostrum that has disease-fighting qualities

gamma ray (γ) High-energy, high-frequency, electromagnetic radiation produced when an unstable atomic nucleus releases energy in order to gain stability; similar to X-rays but of shorter wavelength

gammelost (*Mucor ramosus*; *Penicillium roqueforti*) A large (3-kg), cheese made from skimmed (low-fat) cow's milk and coated with blue-green surface mold; a Norwegian, sour, skimmed-milk cheese

gammon Ham or strip of bacon that has been salted and smoked or dried; hind legs from Wiltshire sides; hind leg of pig

gamy An off-flavor in meat due to incipient decomposition

-gamy Suffix that indicates marriage

gamza A light, red wine

gander Male goose *See* **goose**

ganjong A soy sauce made with cayenne pepper

GAO General Accounting Office; Government Accounting Office of the U.S. Congress

gaper 1) Bivalve (*Mya truncata*). 2) Term used for soft-shelled clams. 3) Term used for sea bass

gaperon A riccio-type cheese made from cow's milk and flavored with garlic or peppercorns and matured

gar A number of varieties of fish with a long, narrow jaw; a freshwater pike-like (*Lepisosteus osseus*) fish

garam masala Curry powder; spice blend of cardamom, cinnamon, cloves, coriander, cumin, and pepper

garam nimboo achar Spiced lime packed in oil

garbage Miscellaneous food waste; a possible energy source

Composition	Hotel and restaurant, boiled	Institutional, boiled
Dry matter (%)	49	18
Protein (%)	8	3
Fat (%)	10	3
Fiber (%)	1	0.5
Ash (%)	3	1

See Part 2: Wastes, Agricultural and Industrial

garbage hogs Hogs that are fed garbage

garbanzo (ceci pea; chick pea) A pea-like plant containing 1 or 2 rough-surfaced, rather large peas per pod; round, light brown bean used in Spanish and Oriental cooking; canned chick peas; similar to peas in appearance and flavor; used as a vegetable and in soups and salads

1 cup, dry = 7.1 oz

See **bean, garbanzo; chick pea; pea**

garbanzo bean *See* **bean, garbanzo**

garbanzo pea Chick pea

garbure A bacon and vegetable soup; ragoût

garden cress (*Lepidium sativum*; **Sometimes erroneously called pepper grass**) A green, spring, annual vegetable similar to watercress salad greens but grown in soil; used for garnish and in salads.

Variety	Season (days)	Leaves	Flavor	Use
Curlycress	10	Dark green; curled	Pungent	Salad, Sandwich, Garnish, Sprouts
Mega	50	Large		Salad
Salad Cress	10	Large		Salad, Sandwich

gardenia *See* Part 2: Essential Oils

garden lemon *See* **cucumber**

garden mint *See* **spearmint**

garden symphylans An active, small, fragile, whitish, centipede-like arthropod; newly hatched larvae have six pairs of legs; another pair is added after every molt until there are 12 or more pairs; adults have 15 body segments and are about $\frac{1}{4}$ in. long Control—difficult because only 35% of the population can be found in the upper 6 in. of soil at any one time

garfish A long, thin saltwater fish (*Belone belone*; not the freshwater gar)

Atlantic *See* **gar pike**

Sea, Australia—species of *Heporhamphus*, *Aorhamphus*, and *Hemirhamphus*

garget *See* **mastitis**

gari Acidic, partially gelatinized granules of cassava

garin acha Thick, porridge gruel made from sorghum or millet and sweetened with honey or sugar

garlic (*Allium sativum* Linn.) A sulfur-containing, bulb-like root composed of several (approximately 10) bulbils (cloves) encased in a membrane; used as spice and seasoning; allacin is responsible for the characteristic odor; available fresh, dried (crushed, ground flakes, powder), oil, mixed with salt forms, in butter, and in vinegar.

Crow garlic (*A. vineale*)

Crushed garlic—strongest flavor

Field garlic (*A. oleraceum*)

Frozen food—flavor increases in potency

Heated garlic—flavor diminishes

Red garlic—skin covering cloves is rose-tinged

Splits—outer skin split exposing cloves

White garlic—skin covering cloves is white

Variety	Season	Cloves	flavor
California White	110 days		
Extra Select			
Jumbo	395 days from seed	Huge 6 in.	Mild

1 tbsp, minced = 6–8 cloves

1 garlic clove, peeled, crushed, and finely chopped = $\frac{1}{3}$ tbsp

1 oz raw garlic = $\frac{1}{2}$ oz garlic juice

= $\frac{1}{4}$ oz garlic powder

1 tsp dehydrated powder = 2.8 g

1 tsp dehydrated flakes = 2 g

When eaten by cattle garlic imparts an off-flavor to milk and meat.

Composition	Powder	Raw clove
Moisture (%)	6-7	61
Protein (%)	16-17	6
Fat (%)	0.6-0.8	0.2
Carbohydrate (%)	72-73	31
Fiber (%)	1.5-2	
Ash (%)	3-4	1.5
Sodium [(mg/tsp), 3 g]	1	

When tops are ripe the plant is pulled and the bulbs are allowed to dry (in sun), braided and stored in a dry, cool (do not freeze) place

Storage (dry): 32°F; 70-75% relative humidity; 6 mo. storage life

See Part 2: Essential Oils; Minerals, Food; Minerals, Plant or Animal Tissue; Planting Density; Spices, Microbial Content; Storage; Vegetables Classification; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Storage; Vegetable Yields

garlic butter A blend of one garlic clove to 2 tbsp of butter

garlic, dehydrated Forms: chopped, granulated, ground, large slices, minced, powder

garlic mustard Pot herb

garlic oil Volatile oil obtained by steam distillation of *Allium sativum*; yellow, strong-smelling fluid obtained from crushed garlic bulbs or cloves; used as a flavoring agent for food; sp. gr. 1.040-1.090

Storage: full, tight, glass container in a cool, dark place

garlic salami A moist, cooked, smoked Australian sausage made from medium chopped, heavily seasoned (garlic), beef, stuffed into artificial casings

garlic salt A mixture of garlic powder, salt, and starch
Composition: Sodium 1850 mg/tsp (6 g)

garlic sausage A moist, cooked, unsmoked Australian sausage made from finely chopped, medium seasoned, beef, stuffed into artificial casings See **knackwurst**

garlic vinegar Flavored vinegar made by adding peeled and bruised garlic to vinegar for one month and then filtering

garni In travel, indicates that a hotel has no dining facilities

garnish Flavorful, colorful, decorative, small pieces of food used to accompany other food; addition to food that improves its appearance and flavor; to decorate a serving of food with colorful items, such as parsley, radishes, etc.

garos Fish sauce

gar pike (*Belone belone*) Food fish

garri Meal made from cassava tubers

garulla Bun

garum A salt and fish sauce

garvock See **sprat**

gas 1) The least dense of the three states of matter, in which the molecules move about freely, exerting pressure equally in all directions. At constant temperature the volume of a confined gas is inversely proportional to the applied pressure (Boyle's law). Equal

volumes of different gases contain the same number of molecules (Avogadro's law). See also **gas law**. 2)

See also **natural gas**

See Part 2: Fuel, Heating Value

gas constant (R)

$$\begin{aligned}
 R &= 8.48 \times 10^5 \text{ (kg/m}^2\text{) (cm}^3\text{)/(lb-mole)(K or }^\circ\text{C)} \\
 &= 18510 \text{ (lb-force/in.}^2\text{)(in.}^3\text{)/(lb-mole)(}^\circ\text{R)} \\
 &= 1546 \text{ (ft)(lb-force)/(lb-mole)(}^\circ\text{R)} \\
 &= 10.73 \text{ (lb-force/in.}^2\text{)(ft}^3\text{)/(lb-mole)(}^\circ\text{R)} \\
 &= 8.314 \text{ joules/(g-mole)(K or }^\circ\text{C)} \\
 &= 1.987 \text{ (Btu)/(lb-mole)(}^\circ\text{R)} \\
 &= 1.987 \text{ chu/(lb-mole)(}^\circ\text{K)} \\
 &= 1.987 \text{ g-cal/(g-mole)(K or }^\circ\text{C)} \\
 &= 0.7302 \text{ (atm)(ft}^3\text{)/(lb-mole)(}^\circ\text{R)} \\
 &= 0.0821 \text{ (atm)(l)/(g-mole)(}^\circ\text{K)}
 \end{aligned}$$

gasket Pliable material used to seal (e.g., hermetic seal) two surfaces; a filler (usually made of paper or rubber) used in a seam to make it hermetically tight

gaskin Stifle to hock of hindfoot of a horse

gas law $pu = RT$, where

p = pressure

v = volume

R = gas constant

T = absolute temp.

gas, natural Obtained by boring into the earth; usually free of sulfur See **natural gas**

gasohol Blend of 90% gasoline and 10% anhydrous ethyl alcohol; 121,000 Btu/gal

gasoline A mixture of hydrocarbon liquids used for automotive fuel; 125,000 Btu/gal See **petroleum**
See Part 2: Fuel, Heating Value

gasoline gas Heated burners vaporize gasoline, which, in turn, is burned, producing a blue flame

gaspergou croaker See **sheephead**

gassing Air is removed and replaced with a gas (often carbon dioxide or nitrogen)

gastradenitis Inflammation of glands in the stomach

gastrextasia Dilatation of the stomach

gastric Pertaining to the stomach

gastric juice A mixture of hydrochloric acid, mucin, pepsin, rennin, and gastric lipase secreted by glands in the stomach to aid digestion; pH about 2.0

See Part 2: pH Values of Biological Materials

gastritis Inflammation of the stomach

gastrocnemius A large muscle behind the tibia that is attached to Achilles tendon; in cross section of the hind shank it is a large U-shaped muscle to the rear of the tibia

gastroenteritis Inflammation of the stomach and the intestines

See Part 2: Infectious Diseases, Food-borne

gastrointestinal Relating to the digestive organs (stomach and intestines)

See Part 2: Organ Weights

gastronomy The preparation and appreciation of gourmet food; epicurean taste; art of good eating See also **gourmet**; **epicure**

gastrosuccorhea Secretion of too much gastric juice

gâteau A cake

GATT General Agreement on Tariffs and Trade

gattinara A dry, Italian, red wine made from Nebbiolo grapes

gatty gum See **gum ghatti**

gauche A tea bread rich in fruit

gaucho Low-fat, high-protein, semisoft, small (200 g) wheels of cheese made from cow's milk

gaufrettes Wafers with dessert

gauge (gage) Thickness of a metal or other material; height; an instrument to measure pressure
See Part 2: Film Gauge

gau gee A pork- or shrimp-filled dumpling that is deep-fried, stir-fried, or served in soup

gauss (G) A measure of magnetic flux density
 $1 \text{ G} = 6.452 \text{ lines/square inch (in.}^2\text{)}$
 $= 1 \text{ maxwell/square centimeter (cm.}^2\text{)}$
 $= 1 \text{ gilbert/square centimeter (cm.}^2\text{)}$
 $= 0.7958 \text{ amp-turn/square centimeter (cm.}^2\text{)}$
 $= 1 \times 10^{-4} \text{ weber/square meter (m.}^2\text{)}$
 $= 6.452 \times 10^{-8} \text{ weber/square inch (in.}^2\text{)}$
 $= 1 \times 10^{-8} \text{ weber/square centimeter (cm.}^2\text{)}$

gautrias A cylindrical (3–4.5 kg), medium flavor, semisoft French cheese made from cow's milk

gazoz Lemonade containing carbon dioxide (CO₂)

gazpacho Salad made from bread crumbs, cucumber, onion, tomato, vinaigrette with garlic

gazpacho, canned soup

Composition	Ready to serve
Moisture (%)	93.8
Protein (%)	3.6
Fat (%)	0.9
Carbohydrate (%)	0.3
Fiber (%)	0.3
Ash (%)	1.4

GC Gas chromatography

GC medium See Part 2: Microorganism, Media

GC ratio The percentage of guanine + cytosine in DNA

Gd Symbol for the element gadolinium

Ge Symbol for the element germanium

gebie Shrimplike crustacean

gebne beide A fresh, cube-shaped, cream cheese made from cow's, sheep's, goat's, or buffalo's milk

geeche lime A chutneylike relish

geelbek (*Atractoscion aequidens*) A food fish

geese Plural of goose

Classes:

Young goose—may be of either sex; has tender meat and a windpipe that is easily dented

Mature goose (old goose)—may be of either sex and has toughened flesh and a hardened windpipe

Medium size wild geese; dressed = 2.5 lb

See **goose**

gefilte fish (jefullte fish; Jewish fish) A Jewish dish made from whitefish and yellow pike that is formed into balls or patties and cooked very slowly in fish broth; stuffed fish or fish balls

geheimratskäse A gouda-type cheese

geisenheimer A white wine

geitost A cheese made from goat's milk whey

gel A colloidal solution of such hydrophilic materials as gelatin, agar, pectins, and starch paste dispersed in water; such solutions set to a firm jelly as a result of the interlocking of the long-chain macromolecules; can be returned to liquid form by heating (reversible gel)

Type gels:

Elastic—agar pectin

Inelastic—gum arabic, silicic acid

See Part 2: Gums and Gelling Agents; Gums and Gelling Agents, Characteristics

gelatin (gelatine) An odorless, colorless to slightly yellow, tasteless, hydrophilic protein made from collagen (bones, skin, tendons) that forms stiff gels when added to water (2–5%); 1 tbsp/pt of liquid is often used; widely used in food products for its thickening and water-binding properties; will soften at 80°F; used as a jelly base for desserts and salads, an emulsifier, in candies and marshmallows, and in frozen desserts.

Types:

Plain and uncolored—used to gel foods; available granulated (unsweetened and unflavored) $\frac{1}{4}$ oz makes 1 pt

1 envelope of unflavored gelatin will support 2 cups of liquid

1 envelope of unflavored gelatin will support 1.75 cups of liquid and solid fruit, vegetables, or meat

Flavored and mixed with sugar—used to make pudding; available powdered (sweetened and flavored) 3 oz makes 1 pt

10% gelatin, sugar, citric acid or other acids, synthetic and natural flavors, and artificial colors

Extracted from: bones, connective tissue, and skins

Forms: sheet (transparent, brittle), granular (most common), and XXXX-powdered (used in ice cream)

Types:

A—derived from acid-cured tissue; isoelectric point pH 7–9

B—derived from alkaline tissue; isoelectric point pH 4.7–5

Equivalents:

1 envelope, unflavored, dry = 7 g

4 tbsp, granulated = 1 oz

4 cups, granulated = 1 lb

1 cup = 150 g (5.3 oz)

1 package, flavored = 3 or 6 oz

1 cup, dry = 6.6 oz

1 cup, prepared = 8.4–9.8 oz

Gelatin dissolves when heated above 35°C (95°F) and absorbs 5–10 times its weight in water; max. 1–2 tbsp of acid (lemon juice, vinegar, wine, or other acid) will make the mold softer and more fragile; raw pineapple juice will interfere with setting and acid

will decrease gel strength

Composition	Powdered: sweetened and flavored	Dessert prepared with powder and water
Moisture (%)	13	84
Calories per gram		0.5
Protein (%)	86	2
Fat (%)	0.1	0
Carbohydrate (%)		14
Ash (%)	1	

Has poor nutritive value because of low tryptophan content; is pareve *See* agar-agar; collagen; gelatin

See Part 2: Calories, Daily Recommendations; Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Minerals (Trace), Limits; Protein Factors; Salad Dressing and Mayonnaise Variations; Stabilizers, Thickeners

gelatinize To cook starch in water to the point where swelling of the granules occurs and a viscous solution is formed; temperature at which this occurs varies with starch variety and modification

gelatinized Starch granules are ruptured by moisture, heat, pressure, and sometimes by shear

gelatinous A sticky, jellylike texture

gelation Setting or stiffening of a gelation solution at 10–16°C (50–61°F)

gelato An ice cream with little air incorporated that is rich in color and flavor; contains approximately 12% milk fat, no eggs, and only natural ingredients

Gelbvieh A yellow (cream to red–yellow), medium sized, alpine, German breed of beef cattle with high fertility rates; from four triple-purpose, yellow breeds: Glan-Donnersburg; Yellow Franconian; Limburg; Lahn

gelbwurst 1) An American sausage made from medium to coarsely chopped, cooked or uncooked, smoked or unsmoked meat; available in large diameter links, rings, or large diameter casings for slicing. 2) A moist, cooked, unsmoked western German sausage made from finely chopped, mildly seasoned, beef and pork, without nitrite, stuffed into an artificial casing

gelderse rookworst Moist sausage made from coarsely chopped, uncooked, heavily smoked, beef

gelderse rookworst onverpakt A moist, uncooked, smoked Dutch sausage made from fine- or medium-chopped, medium-seasoned, beef and pork that is fermented and stuffed into a pork or artificial casing

gelderse rookworst verpakt A moist, cooked, smoked Dutch sausage made from fine- or medium-chopped, medium-seasoned, beef and pork that is fermented and stuffed into a pork or artificial casing

gelding A male horse castrated before advanced sexual development (2 years old)

gelling agent *See* agar-agar; gel; gelatin; pectin

-gen- Syllable that denotes produce or originate

gendarme 1) Square-loaf, farmer sausage made from beef and pork. 2) A semidry, uncooked, smoked

French sausage made from coarsely chopped, medium seasoned, beef and pork that is fermented and stuffed into pork casings with square sections

gene The simplest unit of inheritance; made up of DNA; small sections of a DNA molecule that consist of specific numbers of nucleotides linked in a specific sequence. They can reproduce themselves, control the synthesis of protein, and control the characteristics of a cell

General Accounting Office (GAO) An agency of Congress that investigates the operations of programs and the expenditure of appropriated funds

General Agreement on Tariffs and Trade (GATT) Multilateral agreement that establishes rules and guidelines for regulating world trade among members and provides a forum for countries to resolve trade disputes

generally regarded as safe (GRAS) A Food and Drug Administration term for a group of chemicals that by current knowledge are safe to use in food. Chemicals first added to food after Jan. 1, 1985 have to be tested for safety to be on this list. Usually these chemicals can be used in unlimited quantities

generation time The time required for a newly divided cell to grow and divide again

generation time

$$= \frac{\text{time}}{\text{no. of generations}}$$

$$= \frac{\text{elapsed time}}{3.3 \log \frac{\text{no. bacteria at end of period}}{\text{no. bacteria at start or zero time}}}$$

no. = number

generic Food that does not carry a brand or grade as a guide to quality

genetic engineering (biotechnology) A process of developing new plants and animals by combining genes into new forms and combinations

genetic line *See* variety

geneva (genièvre; jenever; Hollands; schiedam) A strong Dutch gin flavored with juniper; high alcohol content (47–49%); not aged. *See* genièvre
See Part 2: Minerals, Trace, Limits

genevoise sauce A fish stock, butter, and wine sauce containing vegetables, herbs, and pepper, flavored with anchovies

genièvre A gin (plain spirit) flavored with juniper berries *See* geneva

genipap (genipop; Genipa americana) A subacid, greenish white fruit or berry with a purple juice; eaten fresh or made into jam, preserves, conserve, or marmalade

Genoa salami A coarsely chopped salami made from beef and pork

genome The self-replicating portion of a cell; a complete set of hereditary factors of a cell

328 genotype

genotype The fundamental hereditary or genetic construction of an individual

Genova See **Geona**

gentaine See **enzian**

gentian Plant whose flower is used to flavor liqueur; bitter herb whose root is used as a tonic

genus (pl. genera) A taxonomic classification between family and species; a group of related species; the first (capitalized) word of a scientific name

geometric isomers See **cis-trans isomers**

Geona (Genova) A coarsely ground, unsmoked, dry (moisture-to-protein ratio 2.3:1) sausage made with mostly pork (sometimes a small amount of beef is used) and placed in a natural casing

geophagia Eating of products (e.g., clay, soil) normally considered inedible

Georg fungus medium Microbiological medium used for the isolation of fungi; contains penicillin, streptomycin, and cycloheximide; all dermatophyte species grow, whereas bacteria and saprophytic fungi are inhibited

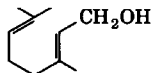
See Part 2: Microorganism, Media

Georgia bind See **Saffie**

Geotrichum Mold sometimes found on food machinery

geradner A muenster-type cheese

geraniol



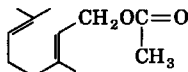
A naturally occurring odor compound that smells like sweet rose; can be artificially produced; used as a flavoring agent in food; sp. gr. 0.870–0.886

Storage: full, tight, glass container in a cool, dark place

geranium oil Oil obtained by steam distillation of leaves of *Pelargonium graveolens*; used as a roselike flavoring agent in food; sp. gr. 0.886–0.899

Storage: full, tight, glass container in a cool, dark place
See Part 2: Essential Oils

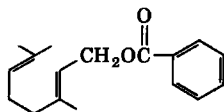
geranyl acetate



Used as a floral-like flavoring agent in food; sp. gr. 0.900–0.915

Storage: full, tight, glass container in a cool, dark place

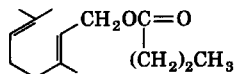
geranyl benzoate



Used as a floral-like flavoring agent in food; sp. gr. 0.978–0.985

Storage: full, tight, glass container in a cool, dark place

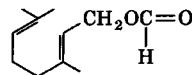
geranyl butyrate



Used as a rose- and fruitlike flavoring agent in food; sp. gr. 0.888–0.904

Storage: full, tight, glass container in a cool, dark place

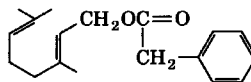
geranyl formate



Used as a roselike flavoring agent in food; sp. gr. 0.906–0.915

Storage: full, tight, glass container in a cool, dark place

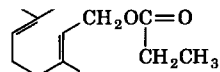
geranyl phenylacetate



Used as a honey- and roselike flavoring agent in food; sp. gr. 0.970–0.978

Storage: full, tight, glass container in a cool, dark place

geranyl propionate



Used as a fruity, floral-like flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

geriatric Of or related to the aged

germ 1) A common name for bacteria. 2) The embryo (at one end of the kernel) and scutellum in a seed; usually separated from the endosperm during milling; seed embryo that is rich in oil and contains protein, vitamins, and minerals; 2% of the kernel; the part of the seed kernel necessary for new plant life See **embryo**

See Part 2: Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat, Fatty Acids; Wheat Kernel Parts; Wheat Products Composition

germ- Prefix indicating a bud or an infantile growth stage

German bologna A medium to coarsely chopped, cooked, smoked, American sausage available in large diameter links, rings, or large diameter casings for slicing

germanium (Ge) A metallic element; at. no. 32; at. wt. 72.60; Group IVA of Periodic Table; oxidation states +2, +4; electron configuration 2–8–18–4 orbit K L M N

A semiconductor

German salami An uncooked, smoked, dry, 40–60 mm diameter sausage made from medium chopped, medium seasoned meat

germicidal detergent A cleaning agent that has properties of a germicide

germicide A product or substance that destroys or kills most germs or microorganisms; synonymous with bactericide, but more general in what it is active against. *See also* **disinfectant**; **antiseptic**

germinate To sprout (as a seed)

See Part 2: Seed, Germination

germ plasm Genetically controlled traits

germ spot (disc blastoderm; germ cell) A small light-colored spot (germinal disc) on the upper surface of an egg yolk (avian) that, in a fertile egg and favorable environmental conditions, develops into the embryo

See Part 2: Egg Structure

gerome A soft, strong, yellow French cheese made from fermented whole cow's milk and with a brine-washed, golden-colored rind or a red rind and a distinctive flavor; sometimes flavored; a soft, greenish, rennet cheese (somewhat like muenster) made from cow's milk. *See* **muenster**

gersterbrot A wheat and rye bread

gervais A soft, Neufchâtel-type, cream cheese made from whole cow's milk and cream with rennet added

gessenay A very hard cheese made from cow's milk

gestation Pregnancy

gestation period Length of normal pregnancy (between breeding and birth of offspring)

Animal	Average age of puberty (months)	Average duration of heat (hr)	Average heat interval (days)	Average gestation period (days)	Frequency of twinning
Cattle	12 ± 1	15 ± 10	21 ± 3	283 ± 5	1 in 200
Horses	20 ± 5	156 ± 30	21 ± 4	340 ± 30	
Sheep	5.5 ± 1	28 ± 25	16.5 ± 3	148 ± 4	Depends on breed *
Swine	5 ± 1	60 ± 15	21 ± 3	114 ± 12	

*6.5 pigs per litter

See Part 2: Gestation Periods

gesztenyepure *See* **Mont Blanc chestnut**

getost A cheese made from goat's milk

geuze lambic A very strong, sour, alcoholic beer made by long fermentation of barley and wheat; with a maturation period

geuse A strong, sour, alcoholic beer made by long fermentation of barley; with a maturation period

gewachs (the growth of) Used on wine bottles to indicate the vineyard

gewer(t)ztraminer A dry, spicy, flowery, white wine

gex A hard, Roquefort-type white cheese with blue veins made from cow's milk with rennet added and with a yellow or red rind

GH *See* **somatotropin**

ghatti gum *See* **gum ghatti**

ghee A clarified butter from India, made by boiling buffalo milk and cream; can also be made from cow's milk, clarified buffalo's, goat's, or sheep's milk or vegetable oil; butter made by removing the water; will keep without refrigeration; used in cooking

See Part 2: Creams, Butter and Frozen Desserts; Iodine and Saponification Values; Oils and Fats Composition

ghemme Italian, red wine made mainly from Nebbiolo grapes

gherkin (*Cucumis anguria*) A pale green cucumber that produces a small (1-3 in.), ovoid, prickly fruit; a small cucumber; the immature fruit is used for pickling (vinegar, brine, or both); other small cucumbers are often pickled and sold as gherkins (pH 5.8); 1100 seed/oz; 3 days germination period.

See Part 2: Olives and Pickles, Composition

gherkin, burr Midget (less than 1 in.), burred cucumber; 550 per gallon

ghussub Balls of cooked millet normally eaten with cheese

giant granadilla A climbing plant that has a large, green or greenish yellow fruit; tastes more insipid than passion fruit; may be boiled in unripe state as a vegetable or eaten fresh when ripe

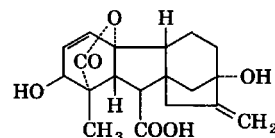
giant Mexican spinach A plant whose 8-in. leaves are used like spinach

giant ragweed (*Ambrosia trifida* L.) An annual weed

giant sea bass (*Stereolepis gigas*) A finfish that is used for food and has light meat and a very light, delicate flavor

Gibberella *See* Part 2: Molds, Mycotoxins

gibberellic acid



A plant growth regulator (hormone) occurring in the seeds of some plants that aids in germination; used as an enzyme activator in food

Storage: well closed container

giblet Primarily the fleshy portion of the diaphragm muscle that is used in sausage; also the heart, liver, gizzard, sometimes neck, and occasionally feet (scales removed) of poultry. *See also* **poultry giblet**

See Part 2: Poultry Dressing Percentage

gibna beida A dry, salty cheese made from goat's milk

gibne (jibne) A soft, white, cheese made from sheep's, goat's, or camel's milk that may be salted and pressed

gibson A mixed drink containing 5 parts gin to 1 part vermouth that is stirred with ice, strained, and garnished with a pearl onion

gid-deed A lamb jerky

gien A valençay-type cheese made with cow's, goat's, or mixed milk and cured for 3 weeks in leaves

giga Prefix for quantities one billion times larger than the base unit

330 *giganta*

giganta A large (30 kg) provolone-type cheese made from cow's milk

gigot Leg of mutton

gilan A moist, coarsely ground, Iranian sausage stuffed into a beef casing

gilbert (Gi) A measure of magnetomotive force
1 Gi = 0.7958 ampere-turn

gilbert per centimeter (Gi/cm)

1 Gi/cm = 79.58 ampere-turn/minute (m)
= 2.021 ampere turn/inch (in.)
= 0.7958 ampere turn/centimeters (cm)

gilboa An edam-type cheese

gild To brush on egg yolk and then cook

gilead A provolone-type cheese made from sheep's milk

gill (gi) 1) A measure of liquid volume

1 gi = 2 wine glasses
= 0.25 pint (pt)

2) Breathing organ of fish

gill (gi; Brit.)

1 gi (Brit.) = 142.07 cm³

gill (gi; U.S.)

1 gi (U.S.) = 118.285 cubic centimeters (cm³)
= 118.292 milliliters (ml)
= 2 wine glasses
= 0.5 cup
= 0.25 pint (U.S. liquid; pt)
= 0.118292 liters (l)

gilt (hilt; yelt; yilt) A young female hog or pig that has never farrowed and has not reached an evident stage of pregnancy

See Part 2: Swine Market Classes and Grades

gilthead (*Chrysophrys auratus*) A food fish

gimlet An alcoholic beverage made from 4 parts gin or vodka and 1 part sweetened lime juice that is shaken with ice and strained

gimmer A ewe lamb from birth to weaning; yearling ewe

gin An alcoholic beverage made by original distillation from mash (malt wine); its flavor is from juniper berries and sometimes other botanicals (e.g., lemon peel, coriander, fennel); clear, distilled spirit that is high in alcohol (usual range, 37–43% alcohol by volume) and flavored with juniper berries and other plants

Types:

Hollands See *geneva*

London—dry

Plymouth (old tom)—sweet

Sloe—liqueur

1 fl oz = 28 g

1 fl oz, 90 proof = 73 calories

1 fl oz, 86 proof = 70 calories

1 fl oz, 80 proof = 63 calories

See Part 2: Minerals, Trace, Limits

ginepy White and green varieties of herb liqueur

ginger (*Zingiber officinale* Roscoe) The underground stem (rhizome; often called hands) of a reed-like, tropical, perennial plant obtained whole, cracked, or ground. Good ginger rhizomes are washed and

soaked, sometimes boiled, sometimes peeled and dried; rhizome contains starch and can be used for making ginger beer (low alcoholic content)

Sources:

Africa

China

India

Jamaican—prime quality, higher price

Types:

Black ginger—dried, whole ginger; dark brown outer coating; superior flavor

Green—not dried

Ground ginger—yellow to brown

Root—lower portions of root

Stem—part close to root

White coating—artificial whiting or sulfate of lime added to discourage mildew

White ginger (tan)—dried, whole ginger; outer coating removed; superior appearance

Wild ginger (India ginger; *Asarum canadense*)—the rootstock has a warm, aromatic flavor very similar to the imported (plant of commerce) ginger

Physical forms of dried ginger:

Black ginger—fresh rhizomes that were scalded prior to scraping; it darkens the color

Bleached, limed—clean, peeled, whole rhizomes treated with sulfuric acid or lime to lighten the color

Fingers—branches of the rhizome

Hands, races—branched rhizomes as dug

Peeled, scraped, uncoated—whole rhizomes from which the skin has been carefully removed

Ratoons—second growth rhizomes

Rough scraped—skin partially removed

Slices—unpeeled rhizomes that have been sliced to speed drying

Splits—unpeeled rhizomes that have been split longitudinally to speed drying

Unpeeled, coated—whole rhizomes dried with skin intact

Stage of maturity

5 months—green; used as a vegetable

7 months—immature; used for preserved ginger

8–9 months—mature; used for dried ginger

May be obtained fresh, but more often dried (usually medium to fine grind); rootlike, warm, and spicy aroma; warm and spicy, peppery, piquant flavor; graded by oil content, color, sweetness, pungency, and heat.

Composition	Fresh	Dried	Limed
Moisture (%)	87	9–11 (11-max.)	
Protein (%)	1	7–10	
Fat (%)	1	5–6	
Volatile oil (%)		1.75*	
Nonvolatile oil (%)		4–5	
Carbohydrate (%)	10	70–71	
Fiber (%)		6–7	
Ash (%)	1	4–5	10–max.

*Volume to weight minimum.

Dried: starch not less than 42%; cold water extract not less than 12% (Jamaica 15%); water-soluble ash

Country	Dried ginger, grade or type	Aroma and flavor	Form	Color	Size	Volatile oil	Nonvolatile ether extract
Australian Chinese		Lemon note	Sliced, coated Whole, peeled, coated slices	Often blanched with sulfur dioxide		4.4	
Indian	Cochin, Calicut	Lemon note	Whole-rough, scraped, sometimes coated sometimes limed	Cochin light brown, Calicut orange	Cochin 12 cm	1.9-2.2	4.3
Jamaican	No. 1 bold, No. 2 medium, No. 3 small, ratoon	Superior	Clean, peeled, whole	Light buff	6-9 cm	1-1.3	4.4
Nigerian		Coarser	Whole-peeled, splits			2.25	6.5
Sierra Leone		Harsh	Whole-coated or rough scraped, ratoon	Dark	Small	1.6	7

not less than 2%; crude fiber not more than 8%; lime not more than 1%; acid-soluble ash not more than 2% Standards:

Moisture 10-12% max.

Ash 6-7.5% max.

Water soluble ash 1.7-1.9% min.

Ash on dry basis

Unbleached 8% max.

Bleached 12% max.

Calcium on dry basis

Unbleached 1.1% max.

Bleached 2.5% max.

Acid soluble ash 2.3% max.

Crude fiber 8-9% max.

Starch 42-45% min.

Volatile oil 1.5% min.

Water soluble extract 10-13.3% min.

Alcohol soluble extract 4.5-5.1% min.

Storage (root): store in refrigerator; for long storage place in a covered glass jar and freeze

See Part 2: Essential Oils; Flavors, Beverage; Spices, Microbial Content; Vegetable Storage; Wastes, Agricultural and Industrial

ginger ale An effervescent, nonalcoholic beverage flavored with ginger; caramel colored, carbonated water that contains ginger, lime juice, lemon juice, sugar, and a small quantity of extract of red pepper (capsicum)

Pale dry—less sugar, ginger, and caramel; more citrus fruit acid

Golden (amber)—more sugar, ginger, and caramel; less citrus fruit acid

1 fl oz of beverage = 30.5 gram (g)
= 9.6 calories (c)

ginger beer A sparkling, slightly alcoholic beverage flavored with ginger or mauby bark

gingerbread A cake sweetened with molasses and flavored with ginger

$2\frac{3}{4} \times 2\frac{3}{4} \times 1\frac{1}{2}$ -in. slice = 175 calories

See Part 2: Grain Products Composition

ginger bread palm See palm

ginger, candied See ginger crystallized

ginger, crystallized (ginger, candied; ginger, dry)

Preserved, young, ginger root (stem ginger) that has been dried; peeled rhizomes are boiled, impregnated with sugar syrup, dried, and dusted with crystalline sugar

Grades or forms:

Cargo ginger—main stem

Bold

Medium

Small-medium

Choice selected stem—small, distal ends

Cubes—21 mm per side

Fingers or third quality—smaller

Slices—7 mm thick

Young stem ginger—distal ends of fingers

ginger, dry See ginger, crystallized

ginger, essential oil (ginger oil) Pale yellow liquid obtained by steam distillation; does not have the pungent principle but does have the flavor and aroma

ginger extract 100 cc must contain the alcohol-soluble matter from a minimum of 20 g of ginger

ginger liqueur An herb liqueur made from macerate of ginger root in spirits

ginger oil A volatile oil obtained by steam distillation of rhizome of *Zingiber officinale*; used as a ginger-like flavoring agent for food; sp. gr. 0.870-0.882

Storage: full, tight, glass container in a cool, dark place

ginger, oleoresin A dark brown, viscous to highly viscous liquid obtained by solvent (ethanol, acetone, trichloroethane) extraction of the dried rhizomes of ginger; has the full pungency of the spice; 15-35% volatile oil (minimum 25 ml/100 g); soluble in alcohol with sediment; insoluble in propylene glycol

1 kg oleoresin = 28 kg of spice

ginger, preserved The peeled rhizomes are boiled, bottled, and sold in sugar syrup

332 ginger, preserved

Grades:

Cargo ginger—main stem

Bold

Medium

Small-medium

Choice selected stem—small, distal ends

Fingers or third quality—smaller

Skins, shavings, tops, and tails—waste material

Young stem ginger—distal ends of fingers

Available crushed or pulped, diced, sliced; syruping ratios (ginger to syrup) 60:40–80:20

ginger preserved in brine (ginger, salted) A preserved ginger that has been pickled with saltwater and vinegar

gingerroot

1 cup, julienne pieces = 6 oz

ginger, salted See **ginger preserved in brine**

ginger snap A crunchy cookie or cracker with a crisp, ginger flavor

1 cup, finely crushed or chopped = 15 ginger snaps

1 cup, broken = 10 ginger snaps

sugar 1 tsp/1 medium ginger snap

sodium 161 mg/4 ginger snaps (28 g)

See Part 2: Grain Products, Composition

ginger stem See **ginger, crystallized**

ginger wine A wine fermented from sugar, water, and ginger (*Zingiber officinale*)

gingivae Gums; the soft tissue that surrounds the teeth

gingko (maidenhair tree; *Ginkgo biloba*) A deciduous tree with fan-shaped leaves; the female produces a fleshy, unpleasant smelling fruit; starchy seed available dried or canned

See Part 2: Seed, Chemical Composition

gingli oil See **sesame oil**

ginisang See **pinakbet**

ginkgo A Japanese nut used in cooking

gin 'n' tonic An alcoholic beverage made by squeezing $\frac{1}{4}$ lime over ice cubes, adding rind and $1\frac{1}{2}$ oz (1 jigger) gin, filling with tonic water, and stirring

ginseng (*Panax quinquefolium*) The root (sometimes also leaves and flowers) of a plant used for tea; sweet and aromatic taste; 1×4 -in. root weighs approximately 1 oz in the fresh state; matures in 5–7 yr; yields approximately 1 ton/acre

Types:

Chinese two piece red

Korean Pine white

Pure Korean red

Pure Korean white

Composition [root (4 yr old) analysis per 100 g]: 338 calories; moisture 10%; protein 12–12.2%; carbohydrate 70%; fat 1%; fiber 4.2%; ash 2.6%; vitamin A < 100 IU; vitamin C < 1.0 mg; vitamin B₁ 0.1 mg; vitamin B₂ 0.108 mg; niacin 4.7 mg; calcium 234 mg; iron 4.9 mg; vitamin E < 1.49 IU; vitamin B₆ < 0.48 mg; folic acid 0.05 mg; vitamin B₁₂ 0.31 µg; phosphorus 216 mg; iodine < 5.0 µg; magnesium 98 mg; zinc 1.0 mg; copper 0.62 mg; pantothenic acid 0.69 mg

ginseng wine A vodka flavored with ginseng root

gin, sloe A gin flavored with sloe berries (the fruit of the blackthorn)

gioddu A yogurt

giraumont A West Indian pumpkin

girdler See **twig girdler**

girgarre A blue cheese

gisado (guisado) Stewed

gisantes (guisantes) A mixture of garlic, meat or fish, onions, peas, and tomato sauce

gislev A hard Danish cheese made with rennet and skimmed milk

giya A clear, mildly alcoholic, sorghum beer

gizzard The digestive organ that precedes the stomach in birds

Composition (chicken, raw): moisture 75%; protein 20%; fat 3%; carbohydrate 1%; ash 1.5%; sodium 17 mg/oz (28 g)

See Part 2: Poultry Dressing Percentage

gizzard shad (*Dorosoma cepedianum*) A food fish

gjetost (brown sugar cheese) A mysost-type, Norwegian, hard cheese made with cow's or goat's milk and with a chocolate brown color and a cubical or rectangular-shape; it is unripened and has a sweetish, caramel, buttery flavor.

Composition: moisture 13–14%; protein 9–10%; fat 29–30%; carbohydrate 42–43%; fiber 0; ash 4–5%

See Part 2: Cheese Characteristics

glacé (glaze) 1) Cake icing. 2) Candied. 3) Glazed fruit. 4) Ice cream. 5) Iced

glacéed fruit Candied fruit coated with a heavy syrup that is allowed to dry See **candied fruit; cherry, candied; glaze**

glacial acetic acid See **acetic acid**

gland An organ that produces a secretion or removes chemicals from the blood, e.g., thyroid, pituitary, etc. See Part 2: Gland Weights

glanders An infectious disease of horses characterized by swelling in the jaw area and mucous discharge from the nostrils

glarner [green cheese; krauterkäse; schabzi(e)ger] A small (100–200 g), low-fat, green-colored (*Melilotus coerulea* herb) cheese made from cow's milk and shaped like a truncated cone

glarus A tilsit-type, mellow cheese from Switzerland that has a light and delicate flavor

glass Container for holding liquid; no evidence currently exists to question the safety of food cooked in glass

Types:

Bordeaux or Burgundy glass = 4 oz
= 8 tbsp

Champagne glass = 5 oz
= 10 tbsp

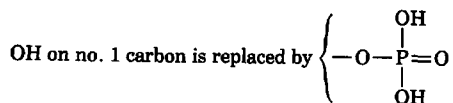
Cocktail glass = 2 oz
= 4 tbsp

Mixing glass = 12 oz
= 8 jiggers
= 24 tbsp

Pony = 1 oz
= 2 tbsp

334 glucose (blood sugar; corn syrup; dextrose; grape sugar)

Glucose-1-phosphate:



Glucose-6-phosphate: OH on no. 6 carbon is replaced by the same group.

Commercial glucose is a mixture of glucose, dextrin, and maltose made by incomplete hydrolysis of starch; isotonic glucose is 5% in distilled water. Used in confectionary because it does not crystallize and for invalids because it is easily converted into energy in the body (glucose is the form in which carbohydrates are circulated in the blood); common in grapes and sweet corn *See also* **corn sugar**.

See Part 2: Amylose and Amylopectin; Honey Composition; Minerals (Trace), Limits; Sugar, D-Aldehyde; Sugar, Fruit; Sugar, Legumes; Sugar, Vegetables; Sweetness of Sweeteners; Sweetening Agents; Sweetening Compounds

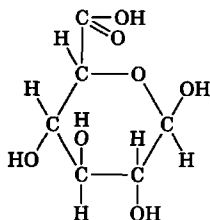
glucose isomerase An enzyme that converts dextrose (glucose) to fructose

glucose syrup *See* **corn syrup**

glucose syrup, dried *See* **corn syrup, dried**

glucose vinegar A vinegar made from alcoholic and acetous fermentation of solutions of glucose

glucuronic acid A monosaccharide derivative used as a building block in nature



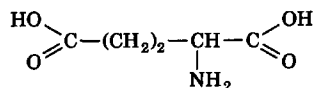
glume blotch (*Septoria nodorum*) A disease that produces green to yellow spots between veins of wheat leaves; also causes shriveling of kernels

glumes A chaffy or membranous bract enclosing the spikelet or flowers of grasses and sedges; consists of lemma and palea; hulls

See Part 2: Rice Kernel

glumse A German, sour, cottage cheese made from skimmed milk

glutamic acid

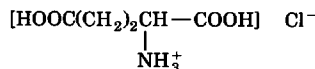


A monoamino-dicarboxylic amino acid; the sodium salt is used to give meat flavor to foods. A white, odorless, nonessential amino acid, salt substitute; also used as a nutrient or dietary supplement

Storage: well-closed container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Glutamate; Glutamate Addition; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

glutamic acid hydrochloride



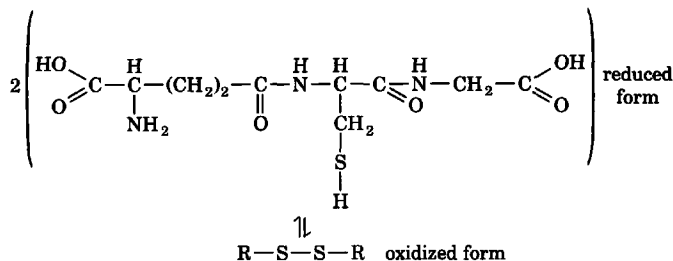
Used as a salt substitute or flavoring agent

Storage: well-closed, light-resistant container

glutamine A nonessential amino acid

See Part 2: Amino Acids

glutathione A widely distributed tripeptide of glutamic acid, cysteine, and glycine, found in all living cells



glue A colloidal protein mixture made from materials high in collagen

Types of animal glue:

Hide glue

Bone glue

Blood albumin glue (water-resistant)

Fish glue (from skin and bones of fish) *See also* **collagen**

glutelins A group of simple proteins that are insoluble in water or salt solution but are soluble in dilute acids or alkalis

gluten A tough, viscid, nitrogenous substance (protein) that remains when grain flour is washed to remove the starch; elastic substance that gives dough the ability to stretch, trap gas and expand, and double in bulk without breaking when the product is baked; gives strength to flour; the greater the gluten content, the better the bread.

Quality

High quality gluten, strong flour, hard wheat; will absorb more liquid; used in yeast bread

Lower quality gluten, weak flour, soft wheat; used for cakes and pastries

See Part 2: Corn Kernel Composition

gluten bread (starch-reduced bread) A bread with less starch (lower energy) made from gluten flour; used by people who would like to avoid starchy foods; looks like white bread but has more elastic texture

gluten flour Wheat flour with the starch removed; a mixture of wheat flour and gluten that contains 41% protein

1 cup, unsifted, dipped = 5 oz

1 cup, unsifted, spooned = 4.8 oz

1 cup, sifted, spooned = 4.8 oz

See Part 2: Gluten-Free Diet

glutenin One of the principal proteins of cereal grain that interacts with gliadin to form gluten; a glutelin found in seed; varies with wheat varieties

See Part 2: Wheat Products, Amino Acid Compositions

gluteus Greek for buttock. A muscle of the thigh that runs from the spinous processes of the sacrum, over the ilium to the outside of the femur

gluttony Eating to excess

glux A cheese made from cow's milk

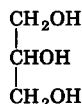
glyc- A prefix meaning sweet

glyceraldehyde ($\text{HOCH}_2\text{CHOHCHO}$) A product of sugar metabolism in the body. Its molecule contains an asymmetric carbon; its conformation is the reference standard for optical isomers of carbohydrates. See also **enantiomer**; **optical isomers**

See Part 2: Sugar, D-Aldehyde

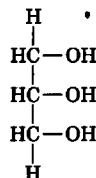
glyceride An ester of glycerol and fatty acids in which one or more hydroxyl groups of the glycerol have been replaced by an acid radical; glycerides are the main constituents of vegetable and animal fats and oils. See also **triglyceride**

glycerin (glycerine; glycerol)



0.6 times as sweet as sucrose; used as a bodying agent, humectant, solvent, or plasticizer; sp. gr. min. 1.249 See **glycerol**

glycerol (glycerin; glycerine)



A trihydric alcohol; a viscous, clear liquid obtained by hydrolysis of natural fats and as a by-product of soap manufacture; used for the manufacture of explosives and as a humectant (e.g., to retain solvent in confectionery), to prevent hardening of icing, and as a solvent; 0.6 times as sweet as sucrose; b.p. 290°C

glycerol ester of partially hydrogenated wood rosin A medium-hard resin used as a masticatory substance in chewing gum base

Storage: well-closed container

glycerol ester of polymerized rosin A hard resin used as a masticatory substance in chewing gum base

Storage: well-closed container

glycerol ester of tall oil rosin An amber-colored resin used as a masticatory substance in chewing gum base

Storage: well-closed container

glycerol ester of wood rosin A hard resin used as a masticatory substance in chewing gum base or as a food or beverage stabilizer

Storage: well-closed container

glycerol-lacto oleate An emulsifying agent used in food fat

glycerol-lacto palmitate An emulsifying agent used in food fat

glycerol-lacto stearate An emulsifying agent used in food fat

glycerol monostearate A food humectant

glyceryl abietate A food ingredient used as a density adjuster or plasticizer

glyceryl monooleate A semisolid

Acid value 5 max.

Iodine value 160–170

Melting point 25°C max.

Sp. gr. 0.945–0.953

See Part 2: Antioxidant Mixtures

glyceryl monostearate A flake used as a dispensing agent

Acid value 3 max.

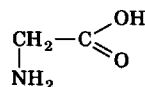
Iodine value 5 max.

Melting point 56–65°F

Saponification value 155–170

Sp. gr. 0.96–0.98

glycine (aminoacetic acid; glycoyll) A mono-amino-monocarboxylic amino acid (nonessential)



Used to retard rancidity in fat (0.01% in fat, total antioxidant; 0.02% in combination) and as a nutrient or a dietary supplement; 70% as sweet as sucrose

Storage: well-closed container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Composition

glycogen (animal starch) ($\text{C}_6\text{H}_{10}\text{O}_5$)_x The chief form in which carbohydrates are stored in the animal body; made up of glucose units (1 & 4 α linkage); it is stored mainly in the liver and is soluble in cold water. See Part 2: Histochemical Test; Sweetening Compounds

glycogenase An enzyme that converts glycogen to glucose

glycogenesis A formation or synthesis of glycogen

glycogenolysis The conversion or hydrolysis of glycogen into glucose units in the body

glycol Ethylene glycol; broadly any aliphatic alcohol containing two hydroxyl groups, i.e., dihydric

glycolipid (cerebrosides) A group of substances composed of a lipid (nonpolar) and a carbohydrate (polar) portion; often found in brain and nerve tissue; the carbohydrate is usually galactose

glycolysis (glycolytic cycle; Meyerhof-Embden pathway) The metabolism of sugar to lactic acid in the body or to pyruvic acid by enzymatic reactions; anaerobic enzymatic decomposition of carbohydrates, with release of energy; occurs in yeast fermentation and in some metabolic processes. Lactic acid is one of the products formed

glycolytic cycle See **glycolysis**

glyconeogenesis (gluconeogenesis) The formation of carbohydrates from protein and fat

glycoprotein A combination of a carbohydrate and a protein; nitrogen content 9–13%; an example is mucin, the lubricating protein of saliva

glycosialia Sugar in the saliva

glycoside A monosaccharide joined to a monocarbohydrate molecule

glycyrrhiza See **licorice**

glyoxylic acid (HCOCOOH) A flavoring intermediate and agricultural chemical

See Part 2: Protein and Amino Acid, Color Reactions

GMP Disodium guanylate

GMQ (good merchantable quality) Describes a product that meets legal standards at point of delivery

gnat A fruit fly

GN broth Gram-negative broth is a selective enrichment medium used for the growth of Gram-negative bacilli of the enteric group; desoxycholate and citrate inhibits growth of Gram-positive; mannitol and dextrose inhibits *Proteus* and encourages enteric pathogens.

See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

gnocchi 1) Dumplings of cornmeal or potatoes, eggs, and parmesan cheese; dumplings made with flour or bread crumbs, milk, eggs, cheese, and nutmeg; entrée made from potatoes, flour, and parmesan cheese. 2) Pasta

gnotobiote An organism free from contamination or associated with known organisms; mono: without contaminants; di, tri, poly: organism contains one or more known contaminants

gnotobiotics (Greek: known life) Study of living things by themselves or in association with other known organisms

GNP Gross national product

goat (*Capra hircus hircus*) A hollow-horned, ruminant animal; mammal with straight hair raised for milk, meat and hide; milk used to make cheese; a kid is young goat; gestation period 150 days (range 142–160)

See Part 2: Gestation Periods; Goats, Milk Breeds; Milk and Cheese Composition; Milk, Mammals, Com-

position; Milk, Species; Minerals, Food; Reproductive Cycle; Teeth Eruption; Unsaturated Fatty Acids

goat acid A short-chain acid that has an animal odor, for example, caproic, caprylic, and capric acids (Latin caprus = goat)

goatbeard (*Tragopogon pratensis*) A wild, salsify-like plant See **salsify**

goat fish (salmonette) A salmon-type food fish found in the Gulf of Mexico

goatgrass (*Aegilops* sp.) An annual weed

goat meat (chevon) See Part 2: Meat and Meat Products, Composition

goat milk The milk of a goat; similar to cow's milk except it is almost pure white and has smaller fat globules, which makes it easier to digest; butterfat varies with breed

Composition (whole, fluid): moisture 87.0%; protein 3.6%; fat 4.1%; carbohydrate 4.4%; ash 0.8%

goats' beard See **goatbeard**

goat's cheese (chevré) A cheese made from goat's milk or goat's milk mixed with other milk; it has a distinctive and strong flavor

goat's horn See **gum tragacanth**

goat's milk See **goat milk**

goatweed A plant having a toxic principle
See Part 2: Poisonous Plants

gobby Lumpy in fleshing

gobo See **burdock**

goetborg See **goteborg**

goeteberg A dry sausage

goetta An American specialty sausage that is medium to coarsely chopped, uncooked, unsmoked, and jellyed; available in links, loaves, or canned

goettinger cervelat A cervelat-type sausage made from high quality, very lean, dry, hard, delicately spiced, pork and beef

gogues A moist, cooked, unsmoked French pork blood sausage made from medium chopped, medium seasoned pork; made with up to 60% cooked vegetables and 15–20% diced pork that is stuffed into a beef casing

gohan Rice; food

goiter An enlargement of the thyroid gland due to iodine deficiency

gokujo Choice grade

golan A provolone-type cheese made from sheep's milk

gold (Au) A metallic element; at. no. 79; at. wt. 197.0; m.p. 1063°C; Group IB of Periodic Table; sp. gr. 19.4; oxidation states +1, +3; electron configuration 2–8–18–32–18–1 orbit K L M N O P

golden apple See **tomato**

golden chasselas A chablis-type, white, table wine

golden cure Red herring smoked for 5 days

Golden Delicious A variety of apples that is in season from October to March; an excellent eating apple

and a fair to good cooking apple; too sweet for some cooking purposes

golden fizz A drink made with gin and egg yolk

golden gram See bean, mung

golden hog See ambarella

golden needle See tiger lilies

golden seal (orange root; yellow root; *Hydrastis canadensis*) An herb that is sometimes used as a tonic

golden thistle (Spanish oyster plant; *Scolymus hispanicus*) A plant that is similar to salsify See *scolymus*

goldfish (*Carassius auratus* Linnaeus) A food fish

gold 'n rich A tilsit-type cheese

goldwasser An herb liqueur that contains particles of gold

goldwater An herb liqueur that contains particles of gold

gollandsky An edam-type cheese

gomasio A mixture of sea salt and sesame seeds; reported to give a source of salt without inducing thirst

gomme syrup See gum syrup

gomolya A soft, white, sheep's milk cheese that may be partially cured

gomost Curdled milk

gomser A semihard, full, fruity flavored, cow's milk cheese

gonad Essential sexual glands; in female fish they produce roe; in male fish they produce milt

gonadotrophin An agent that causes rapid growth of follicles or ovaries

gonez An oak wine container
1 gonez = 144 liters Tokay wine

gon lo mein Stir-fried noodles

goober See peanut

Gooch crucible A funnel device with a perforated bottom used in a laboratory with suction to filter (through asbestos filter mats) precipitates

good See Part 2: Lamb Quality Guide

good King Henry (all good; mercury; *Chenopodium bonus henricus*) A food plant that is an herb of the spinach family
Parts eaten:
Fleshy shoots—like asparagus
Mature shoots—eaten like spinach
Young shoots—raw in salads
See mercury

good merchantable quality See GMQ

goods received note A document that details all inbound materials after they have been checked for quantity

goody See spot

goose (varieties of the Anser species; *A. anser*; *A. ferus*; *S. segetum*) A large, amphibious, web-footed bird used for food; its liver is used for paté de foie gras. Egg incubation period 29–35 days; all dark meat; a high percentage of fat (30%); to aid feather removal, dip in scalding water (145–155°F) for 1½–3 min
Green geese (junior geese)—young geese (10–13 weeks old) that weigh 10–12 lb
1 lb ready to cook = 2 servings

Goose breeds	Color			Adult weight (lb)	Use
	Back	Breast	Abdomen		
African	Ash brown	Light ash brown	Light ash brown	18–20	Meat, good layer
Buff	Dark buff	Light buff	White	16–18	Fair marketing
Canada	Dark gray	Very light gray	Light gray	10–12	Lays few eggs
Chinese	White or brown	White or brown	White or brown	10–12	Good layer
Egyptian	Gray and black with touches of white, reddish brown, or buff			4.5–5.5	Ornamental
Emden (Bremen)	White	White	White	20–26	Meat, good layer
Pilgrim				13–14	Good marketing
Male	White	White	White		
Female	Dark gray	Very light gray	Light gray		
Sebastopol	White	White	White	12–14	Ornamental
Toulouse	Dark gray	Light gray	White	20–26	Meat

Composition	Domesticated Goose	
	Flesh and skin (raw)	Flesh and skin (cooked, roasted)
Moisture (%)	49.66	51.95
Protein (%)	15.86	25.16
Fat (%)	33.62	21.92
Total		
carbohydrates (%)	0.0	0.0
Ash (%)	0.87	0.97

USDA grades:

U.S. Grade A poultry

U.S. Grade B poultry

U.S. Grade C poultry

See Part 2: Animal Foods, Composition; Frozen Food Storage; Minerals, Food; Meat and Meat Products, Composition; Poultry Class; Poultry Roasting

gooseberry (Barbados gooseberry; cape gooseberry; Chinese lantern; coqueret; dwarf cape gooseberry; ground cherry; husk tomato; jam-berry; strawberry tomato; tomatillo; winter cherry; *Physalis alk(en)enqi*; *P. peruviana*; *Ribes grossularia*; *R. hirtellum*; *R. missouriense*) An annual plant that produces a round berry, $\frac{1}{2}$ – $\frac{3}{4}$ in. in length, with a thin skin, a sweet, juicy, slightly acidic flesh, a number of seeds, and covered by a light-brown husk; it is eaten raw or used in stews, sauces, preserves, jellies, and in chili sauce; tart, green, yellow, pink, or red berries grown on a thorny, 4-ft bush; bearing age—2 yr; yield/plant 12 lb; usually picked while unripe and stewed. Available raw, canned in syrup, and as jam; usually canned in water for pies, picked prior to changing color, and usually green when canned

Ripeness:

Green—sauce, pies, canning

Ripe—jelly, wine

Types: Yellowish with hairy skin; reddish skin; dark green skin; pale whitish-green skin; black; red-purple skin

Cultivar	Fruit size	Fruit color	Quality
Downing		Green	
Pixwell	Large	Dark red, golden	Excellent
Poorman	Large	Pinkish red	High
Welcome	Large	Dull red	Excellent

1 crate (24 qt), fresh = 32–36 pt, frozen

1 qt, fresh = 1 qt, canned

1 pt, frozen = $1\frac{1}{3}$ – $1\frac{1}{2}$ pt, fresh

1 cup = 5.3 oz

Composition (raw): moisture 85–89%; protein 1–2%; fat 0.2–1%; carbohydrate 10–11%; ash 0.4%; pH 2.8–3.1 See **gooseberry, cape**

See Part 2: Fruit, Canning Dates; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Fruit Storage; Minerals, Food; Organic Acids in Fruits and Vegetables; Riboflavin, Food; Sugar, Fruit

gooseberry, canned In addition to gooseberries, may also contain natural and artificial flavors.

Percent sucrose in syrup

Extra light < 14

Light 14–20

Heavy 20–26

Extra heavy 26–35

gooseberry, cape (*Physalis peruviana*) See gooseberry

gooseberry, otaheiti See grosela

goose braunschweiger See goose liver sausage

goose fat The fat rendered from a goose; mp 15–25°C

goosefoot See lamb's quarter; mercury

goose grade See poultry grades

goose, green A young goose with a soft flexible bill and soft feet; best for cooking

goose liver sausage (**goose braunschweiger**) A braunschweiger made with cubed pieces of goose liver; must contain 30% liver; pistachio nuts may also be used

goose, noodle A goose fattened on noodles

goose, potted Goose breast meat and butter that is sieved and heated

gorbea An esbareich-type cheese that matures in one month

gorgonzola A pungent, blue-veined cheese made from cow's and/or sheep's and/or goat's milk and with a reddish rind; size 12 in. in diameter and 6 in. high

gorgonzola cheese A blue-veined (*Penicillium roqueforti* or *P. glaucum*), whole milk cheese very similar to roquefort or blue cheese; soft and creamy, yellow interior; light-brown surface; marbled with blue-green mold; cylindrical shape; piquant and spicy flavor; made from goat's and/or cow's milk; ripened 3 months by internal mold; a semihard cheese from Italy that travels well

Composition: moisture 36%; protein 26%; fat 32%; ash 5%; salt 2.4%

Storage: can be frozen (0°F) in small quantities if used in salads or dressings; use in 6 months

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Cheese Composition

gorlic See Part 2: Fatty Acids and Their Properties

gornooryakhorski soudzouk A medium-chopped salami made from beef

gorny A hard, dry, low-fat, grating cheese

gorny doubnyak A bitter, ginger liqueur

gosling A young goose

gossypol A toxic, phenolic, yellow pigment in cottonseed; causes discoloration of egg yolk during cold storage

goteborg (**goetborg**; **goteburg**; **hard cervelat**; **Swedish sausage**) 1) A dry, uncooked, smoked or unsmoked American sausage (cervelat-type) made from medium to coarsely chopped, mildly seasoned (thyme, salt) beef and pork that is fermented and stuffed into a beef or artificial casing; available in dry or semidry links, rings, or large diameter casing; a dry sausage made from coarsely ground beef (60%) and pork (40%) that has a sweet flavor (cardamom); it is given a heavy smoke and dried; a cervelat that has been air-dried for several weeks. 2) A heavily smoked Swedish (gothenburg) sausage that is air-dried, mildly seasoned with thyme, sweet (cardamom), and salty;

made from coarsely chopped beef (60%) and sometimes pork (40%)

gothaer A finely chopped and cured, German summer sausage made from very lean pork; medium-chopped salami made with pork and seasoned with pepper; a dry, uncooked, unsmoked American cervelat-style sausage that is made from medium chopped, mildly seasoned (pepper) pork that is fermented and stuffed into a pork or artificial casing

gottinger A moist, cooked, smoked Austrian sausage made from coarsely chopped, medium seasoned (nitrite), beef and pork, and stuffed into artificial casings with a diameter of greater than 60 mm

gouda A pale colored, semisoft to firm cheese with a mild, nutlike flavor made from cow's milk and with a red or pale gold, wax rind; made from pasteurized, inoculated, whole milk with rennet added, scalded, not textured, and pressed; higher in fat content than edam

gouda cheese A Dutch cheese that is sometimes smoked; a hard (softer than cheddar), mild to sharp, nutlike, creamy yellow cheese similar to edam but higher in fat, used as a cooking or dessert cheese; the shape is an ellipsoid ball with a red wax covering. It is made from partly skimmed milk; ripened 2–4 months
Composition: moisture 37–42%; protein 24–30%; fat 27–29% carbohydrate 2–3%; lactose 1–2%; fiber 0%; ash 2.7–4%; salt 1.7–2%; sodium 232 mg/oz

Storage: can be frozen (0°F) if no more than 1 in. thick; use in 6 months

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

goulash (gulyas) A beef and vegetable stew; a Hungarian beef stew containing beef or veal, onions, potatoes, paprika, and other seasoning (e.g., sauerkraut, sour cream)

See Part 2: Portion Size

goumi (*Elaeagnus multiflora*) Red or orange, acid, wild berry similar to cranberry; used to make preserves or sauces

gourd An annual, climbing (10–20 ft) plant of the *Cucurbitaceae* family [genera *Cucurbita* (thin shelled) and *Lagenaria* (thick shelled)] whose fruit is often used as food (when small; not edible when ripe)

Types:

Bitter (*Citrullus cynthis*)

Cranberry (*Abobra tenuifolia*)

Dishcloth or luffa (*L. leucanthae*)

Gooseberry (*Cucumis anguria*)

Hedgehog, ostrich egg, or teasel (*Cucumis dipsaceus*)

Ivy (*Coccinia cordifolia*)

Malabar (*C. ficifolia*)

Maté or utensil (*L. l. vulgaris*)

Mock and onion-shaped (*C. pepo*)

Serpent cucumber (*Trichosanthes anguina*)

Wax or white fruited (*Benincasa hispida*)

Use:

bottle gourd: dry, hard shell, used as container; young fruit, boiled as a vegetable

wax or ash gourd: vegetable

egusi melon: oily seeds are cooked and eaten

Examples are barbarine, cushaw, pumpkin, squash, vegetable marrow

Term often used for only inedible varieties; ripened fruit may be coated with shellac for decoration

U.S. designation (*Cucurbitaceae*)—hard shelled fruit

European designation—also includes cucumber, melon, pumpkin, and squash

See loofah gourd; passion fruit; round gourd; snake gourd; wax gourd; zapallito

See Part 2: Cucurbit Crops, Spacing and Depth of Planting; Vegetable Storage; Wastes, Agricultural and Industrial

gourilos Stumps of curly endive

gourmand One who is given to overeating; a glutton

gourmandise 1) A processed cheese made from cow's milk flavored with cherry and often containing nuts. 2) Luxurious, epicurean discrimination in eating and drinking

gourmet A connoisseur in drinking and eating; one who is accustomed to the best of foods See also epicure

gournay A small (100 g), mild-flavored, camembert-type cheese made from cow's milk and cured 1 week

gourney A soft, French, rennet cheese

gout (podagra) An inflammation of the fibrous parts of joint and the formation of uric acid or sodium urate in the blood

goutweed See *aegopodium*

"government" carcass A term used widely by those employed in the meat packing industry indicating a carcass rejected by USDA Meat Inspectors as being unfit for human consumption

gow choy (Chinese chives) A vegetable that looks like chives but is larger and has a mild, garliclike flavor

goya A hard, dry, low-fat, grating cheese made from cow's milk; an Argentinian rennet cheese made from whole or partly skimmed milk

goy choy See Chinese mustard greens

GPO Government Printing Office

gracay A valençay-type cheese made from goat's milk and covered with charcoal

gracilis The inside thigh muscle just below the skin; only visible in cross section on approximately the last half of cross cut round steaks

gradaost A blue cheese made from cow's milk

graddfil A thick, ropy, fermented, low-medium acid (pH 4.4–4.7), cow's milk

grade 1) Classification according to breeding. Animals that are not pure-bred are often produced by mating a purebred sire with a dam of less than pure breeding; high grade: possessing 87½% or more of pure breeding but not 100%. 2) Classification according to quality (eggs, fruits, vegetables, etc.). 3) Classification according to chemical purity.

Chemical specification grades (in order of decreasing purity)

No. 1—Primary Standards

No. 2—Spectro

No. 3—Reagent

No. 4—A.C.S.

No. 5—Chemically Pure

No. 6—U.S. Pharmacopeia

No. 7—National Formulary (N.F.)

No. 8—Purified

No. 9—Technical or Commercial

4) Classification according to weight or yield. 5) 1 grade = 1.571×10^{-2} radian *See also specific entry*

See Part 2: Butter Grade; Cheese Grade Stamps; Cheese Shield; Egg Quality; Egg Quality and Size Label; Egg Quality, Broken; Fruit Grade Use; Fruit Inspection Labels; Grades, Meat; Meat Grade Stamps; Nut Grades; Poultry Grade Stamp; Poultry Inspection and Grade Stamp; Sheep Market Classes and Grades; Swine Market Classes and Grades; Tomato Grades; Vegetables, Canned Grades; Wheat Grades

graft A small shoot of one tree inserted into another tree for propagation purposes

graft union The part of the lower stem of a woody plant (usually enlarged) where the scion (variety) was joined to the stock

graham Breakfast food made from whole wheat

graham bread (wholemeal bread) Wholewheat bread

graham cracker A soft cracker made from graham flour

1 cup = 9 coarsely crumbled

= 11–14 finely crumbled

40 crackers = 1 lb

$2\frac{1}{2}$ -in. square = 7 g

Composition: fiber 10%; sodium 48 mg/cracker (7 g)

See Part 2: Fermented Ingredients; Grain Products Composition; Minerals, Food

graham flour Flour made from the whole-wheat grain; whole, hard, wheat flour. It has superior nutritive value and poorer keeping quality *See also flour*

Graham's salt *See sodium phosphate*

grain 1) Small seeds of grass or cereal plants. 2) In wood and paper, the direction of the fibers.

See Part 2: Food, Composition; Grain Analysis; Grain Products Composition; Nutrients in Crops; Tocopherols; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

grain (apoth.; av.; gr; troy) A measure of weight used for gold, silver, and jewels; grain avoirdupois = grain troy = grain apothecary

1 grain (gr)

= 64.798918 milligrams (mg)

= 0.3240 carat (metric)

= 0.064798918 gram (g)

= 0.05 scruple (apothecary)

= 0.04166667 pennyweight (troy)

= 0.03657143 dram (avoirdupois)

= 0.01666671 dram (apothecary or troy)

= 0.00228571 av. ounce (oz avoirdupois)

= 0.00208333 troy or apothecary ounce (oz troy; oz apothecary)

= 0.0001736111 troy or apothecary pound (lb troy; lb apothecary)

= 0.0001428571 av. pound (lb avoirdupois)

= 0.00006480 kilogram (kg)

= 0.00000007143 net-short ton (2,000 lb)

= 0.00000006378 gross-long ton (2,240 lb)

= 0.00000006480 metric ton (1,000 kg)

24 grains = 1 pennyweight (dwt)

20 dwt = 1 ounce

12 ounces = 1 pound

grain (vinegar) Quantity of alkali (in grains) to neutralize the acetic acid in the vinegar; grain = $10 \times$ % acid

grain alcohol Normally 190 proof ethyl alcohol *See ethyl alcohol*

grain per gallon (Brit.) 14.254 parts per million in water (ppm; by weight)

grain per gallon (U.S.)

1 grain per gallon = 142.86 pounds/million gallons

= 17.118 mg/l

= 17.118 parts per million in wa-

ter (ppm; by weight)

= 14.857 pounds/million gallons

grain screening Separation of small, imperfect grains, weed seed, and other foreign material using a screen when grain is cleaned; it is used as a feed ingredient

Composition (unclean): dry matter 92%; protein 13.9%; fiber 17.1%; fat 5.4%; ash 8.6%

grain sorghum *See sorghum grain*

grain spirit A spirit distilled from cereal grain

grain vinegar Distilled vinegar

grain whiskey A whiskey distilled from a high proportion of unmalted cereal

grainy Granular texture

graisse Fat

gram (food; *Vigna radiata*) Pulse and/or tropical legumes *See chick pea*

gram (g; gm; gramme) A measure of weight

1 gram = 1,000,000 micrograms (μ g)

= 1,000 milligrams (mg)

= 980.665 dynes

= 100 centigrams (cg)

= 15.4323561 grains (troy)

= 10 decigrams (dg)

= 5 carats (metric)

= 1 milliliter of water at its maximum density (4°C) and 1 atm. pressure

= 0.771618 scruple (apothecary)

= 0.64301485 pennyweight (dwt)

= 0.5643833 dram (avoirdupois)

= 0.2572059 dram (troy)

(apothecary)

= 0.03527396 av. ounce (common)

= 0.03215074 troy or apothecary ounce

= 0.07093 poundal

= 9.807×10^{-3} joules per meter (newton)

= 2.67923×10^{-3} pound (troy)

(apothecary)

= 0.00220462 pound (avoirdupois)

= 0.001 kilogram (kg)

= 9.807×10^{-5} joules per centimeter

= 1.10231×10^{-6} ton (short)

= 9.842×10^{-7} ton (long)

See Part 2: Weight

gram-calorie (g-cal)

1 gram-calorie = 4.184×10^7 ergs

= 3.086 foot-pounds

= 3.9683×10^{-3} watt-hours

= 1.5596×10^{-6} horsepower-hours

= 1.162×10^{-6} kilowatt-hours

See calorie

gram-calorie per second (g-cal/s)

- 1 gram-calorie per second
- = 14.286 British thermal units per hour

gram-centimeter (g-cm) A measure of heat, energy, and/or work

- 1 gram-centimeter
- = 980.5966 ergs
- = 9.807×10^{-5} joule
- = 0.000072330 foot-pound
- = 1×10^{-5} kilogram-meter
- = 9.297×10^{-8} British thermal units
- = 2.343×10^{-8} kilogram-calories

gram-centimeter per second (g-cm/s) A measure of power, rate of energy, and heat

- 1 gram-centimeter per second
- = 980.5966 ergs per second
- = 9.80665×10^{-5} watt
- = 0.00007238 foot-pound per second

gram equivalent Atomic weight of an element divided by its valence

gramicidin An antibiotic polypeptide that is effective against most gram-positive bacteria; obtained by extraction of tyrothricin

gram molecular weight See mole

Gramm-Rudman-Hollings An act that specified rules for moving toward a balanced budget through systematic cuts in federal expenditures

Gram-negative Stain red; more susceptible to destruction by disinfectants and environmental factors
See **Gram's stain**

gram per centimeter (g/cm)

- 1 gram per centimeter
- = 5.6×10^{-3} pounds per inch

gram per cubic centimeter (g/cm³) A measure of density or concentration

- 1 gram per cubic centimeter
- = 1,685.56 pounds per cubic yard (lb/yd³)
- = 1,000 kilograms per cubic meter (kg/m³)
- = 980.5966 dynes per cubic centimeter
- = 77.6893 pounds per bushel (lb/bu; U.S.)
- = 62.4283 pounds per cubic foot (lb/ft³)
- = 9.71116 pounds per gallon, dry (lb/dry gal; U.S.)
- = 8.34545 pounds per gallon, liquid (lb/liquid gal; U.S.)
- = 1.162283 poundals per cubic inch
- = 0.036127 pound per cubic inch (lb/in.³)
- = 3.405×10^{-7} pounds per mil-foot

gram per liter (g/l) A measure of density or concentration

- 1 gram per liter = 1,000 parts per million (by wt) in water
- = 58.43 grains per gallon
- = 8.345 pounds per 1,000 gallons
- = 0.062427 pound per cubic foot (lb/ft³)

gram per square centimeter (g/cm²) A measure of pressure

- 1 gram per square centimeter
- = 980.5966 dynes per square centimeter
- = 2.0481 pound per square foot (lb/ft²)
- = 0.457592 poundal per square inch
- = 0.014223 pound per square inch (lb/in.²)
- = 9.6784×10^{-4} atmosphere

gram per square meter (g/m²) Weight per unit area

- 1 gram per square meter
- = 0.029 ounces per square yard (oz/yd²)

Gram-positive Stain dark blue or black See **Gram's stain**

Gram's stain A staining method developed by Gram in 1880 that differentiates Gram-positive from Gram-negative bacteria by their ability to retain crystal violet dye

Negative—red

- Aerobacter aerogenes*
- Escherichia coli*
- Pseudomonas aeruginosa*
- Salmonella*
- Shigella*

Positive—blue

- Clostridium*
- Staphylococcus*
- Streptococcus*

The staining is a function of the amino acids and lipid composition of the cell wall

See Part 2: Gram Stain; Sanitizing Chemicals; Water Activity, Organisms and Food

grana A group of hard, well-aged, granular, Italian cheeses; a hard, dry, low-fat (partly skimmed milk), well-matured, grating cheese with a hard rind

grana cheese A grainy texture cheese

Types (both called parmesan): grano padano; parmigiano-reggiano

granadilla (grenadilla; *Passiflora edulis*) Passion fruit; a fruit with many different types of varieties

Types:

- Large fruit with seeded pulp
- Small, purple fruit
- Yellow with viscous pulp

Varieties:

- Giant granadilla—*Passiflora quadrangularis*; pulp from 10-in. thick shell is used as fruit
- Passion fruit; granadilla—yellow pulp is used fresh, in salads, and in desserts
- Sweet calabash, kuruba, sweet cup—*P. maliformis*
- Sweet granadilla; parchita—*P. liqularis*; white pulp
- Water lemon; yellow granadilla; golden apple—*P. laurifolia*

See **passion fruit**

grandjo A sweet, dessert wine

grand marnier A citrus liqueur using Seville oranges and cognac

Grand Rapids lettuce A leaf lettuce with tightly curled leaves

grand rustique An unpasteurized, camembert-type cheese made from cow's milk

Granger A variety of bird's-foot trefoil

granita A frozen dessert that has a texture like chipped ice and contains no dairy products or egg yolks; made from fruit ice and a sweetener

granite (granita) A mushy sherbet or ice dessert made from fruit or fruit juice; a frozen, sherbetlike dessert; prepared like a frappé

granola An oatmeal-based mixture commonly eaten for breakfast; may contain sweeteners (brown sugar, honey), coconut, nuts, and/or dried fruit; available ready-made

Composition: sugar 21–31%; sodium 61 mg/¼ cup (34 g)

granular tapioca See **flake tapioca**

granulated hominy See **hominy**

granulation 1) Particle size usually determined by sieve analysis, through U.S. standard-sized screens, for a specified time, on a standard shaker, and starting with a specified amount. Empirical classification for spices is 1 min and 100 g

	Passes through		Retained on	
	Min.	Screen no.	Max. %	Screen no.
Coarse			30	30
Medium	70	30	50	60
Fine	98	30	35	60
Extra fine	50	100		

2) (Corkiness; crystallization; dry end; koa sarn; sclerocystosis) A physiological disorder causing dryness of juice sacs on citrus fruit that has not been exposed to freezing; juice sacs (usually at the stem end) become hard and enlarged and are white or gray in color; the juice sacs are hard and separate from each other and the pulp has a grainy texture. This condition develops on the tree and does not progress materially after harvesting

grape (*Vitis vinifera*) A vine that produces fruit used for food (table grapes, raisins, unfermented grape juice) and wine; classification is complex; usually grouped according to the following: black or white; outdoor or indoor; time of ripening; wine or dessert. Bearing age: 3 years; yield: 2 lb/plant

Canning Varieties

Concord (black, solid pack for pies)

Muscat (large, white, with seeds)

Thompson seedless (green); used for canning and fruit cocktail

Canned Style

Plain in syrup

Plain in water

Spiced in syrup (off the stem and in clusters)

Types and varieties:

California (European, *vinifera*)—eaten raw; raisins; wine

Catawba—medium; round to oval; sweet; firm; thick, loose, purple skin

Concord—medium; round; thick, loose, purple skin; impacted seed, green flesh

Delaware—medium; light red skin with purple bloom; light green flesh; sweet; juice

Eastern (native bunch, slipskin): eaten raw

Emperor—large; oblong; tight, deep red skin; easily removed seed

Flame Tokay—oblong; red, tight skin; firm, green pulp; easily removed seed

Lady fingers—long; white; thin skin; easily removed seed

Muscadine: poor shipper; jelly; jam; syrup

Red malaga—large; round to oval; red with blue bloom; tight skin

Ribier—large; round; black skin

Thompson seedless (sultanina)—medium; oval; yellow with white bloom skin; seedless

White malaga—round to oval; yellow with white bloom; tight skin; easily removable seed

Varieties by area:

Eastern American

Catawba

Concord (black; very productive, poor keeping)

Delaware

Niagara (large white)

European

Cardinal (red)

Emperor (red)

Thompson seedless (green)

Tokay (red)

Western American

Alicante

Black Zinfandel

California white muscat (raisin grape)

Red flame

Tokay

White malaga

Types:

Vitis bourquiniana—late grape for the South, fruit medium size

V. champini—late grape for the South, fruit medium size

V. labrusca—fox grape; foxy flavor; North and Central areas

V. lincecumii—late grape for the South, fruit medium size

V. riparia—frost grape; hardy, Northern states, small

V. simpsonni—grape grown in Florida and Gulf states

V. vinifera—European or Old World grape; sweet; in U.S. grown in California; table and wine grape; more susceptibility to diseases and insects

Alexandria; Alicante Bouschet; Aurore (white, Aug., early, white wine, eating, hardy); Banco Noir (purple, midseason, wine); Black Hamburg; Burger; Cabernet Sauvignon; Carignane; Chancellor (S. 7053) (purple, midseason, wine); Chasselas de Fontainebleu; Cinsaut; De Chaunac (S. 9549) (purple, midseason, red wine, mid. Aug.); Dodrelabi; Emperor; Foch (Kuhlman) (blue, early, burgundy-type, wine, Sept.); Green Hungarian; Grenache; Listan; Malaga (greenish white, seeds); Mission; Mondeuse; Mourastel; Muscadelle de Bordelaise; Noire; Olivette; Olivette Blanche; Pedro Ximenez; Petit Syrah; Pineau de Chardonnay; Purple Damascus; Sauvignon Varie; Semillon; Seyval Blanc (S. 5276) (white, early, wine); St. Macaire; Sultana; Sylvaner; Thompson's Seedless (greenish white, without seed); Tokay (green to red, large grape); Traminer; Valdepenas; Vermentino; Vidal Blanc (V. 256) (white, midseason, wine and table); Zinfandel

Raw grape composition: moisture 81–82%; protein 0.6–1.4%; fat 0.3–1%; carbohydrate 15–17%; ash 0.4%; pH 3.4–4.5; fiber 0.7%; vitamin A 80 IU/100 g; ascorbic acid 4 mg/100 g; skin and seed (refuse) 22–25%

American bunch grape variety	Color	Time of ripening	Characteristics	Cluster size	Berry	Use
Alden	Purple	Early-mid season	Non-slipskin		Large	Table, wine
Bath	Purple	Mid season	Hardy			Table
Beta	Purple	Early	Very hardy	Small	High sugar, high acid, wild flavor	Juice, jelly
Blue Lake	Purple-red	Early-mid season	Florida, Gulf Coast	Medium	Small, spicy flavor	Juice, jelly
Buffalo	Blue-black	Early, early Sept.	Hardy	Large	Excellent, distinctive flavor	Table, wine, juice, jelly
Caco	Red	Mid season	Vigorous, hardy, medium productive		Large, medium quality	Table
Campbell Early	Purple	Early-mid season	Moderate vigor and production fairly hardy	Medium-large	Medium	Juice, jelly
Catawba	Purple-red bloom	Late, late Sept.	East, Central, vigorous, hardy, productive	Large	Large, firm, juicy	Table, juice, wine, storage
Cayuga Champion	White Purple	Late	East, Central	Tight	Dessert quality Sour, poor quality	Table
Concord	Deep purple, light bloom	Mid season, late Sept.	Vigorous, hardy, productive, disease-resistant	Medium	Medium-large	Fair flavor, poor shipper, juice, wine, jelly, jam, fresh, table
Concord Seedless	Purple	Mid season, Sept.	Low vigor, medium production, hardy, disease-resistant	Small	Small, almost seedless	Table, pie
Delaware	Deep red, light bloom	Late-mid season	Medium-low vigor, medium production, hardy	Medium-small	Small, high sugar, good keeper	Table, wine
Ellen Scott	Red	Late	Vigorous, productive, medium hardy, disease susceptible	Medium-large	Large	Juice, table
Fredonia	Purple	Early-mid season	Vigorous, productive, disease-resistant	Medium-small	Large, Concord-type	Table, juice, jelly
Golden Muscat	White	Late-mid season	Vigorous, medium production, medium hardy	Large	Medium, foxy muscat flavor	Table
Himrod Seedless	White	Early-mid season	Vigorous, medium hardy, productive	Large, loose	Medium, oval, nearly seedless	Table
Interlaken Seedless	White-amber	Early, mid-Aug.	Moderate vigor and production, cold tender	Medium	Small, nearly seedless	Table
Joannes-Seyve 23-416	Pink	Late-mid season	Vigorous, medium production, disease-resistant	Large, loose	Oval	Wine
Joannes-Seyve 26-205	Purple	Late-mid season	Moderate vigor, productive, disease-resistant	Large		Wine
Kuhlman 188-2 or Foch or Marechal Foch	Purple	Early	Moderate vigor and production, fair disease-resistant	Small, tight	Small	Wine
Landot 244 Landal	Purple	Mid season	Medium vigor and production, fair disease-resistant	Medium		Wine
McCampbell	Purple	Early-mid season	Vigorous, hardy, productive, disease-resistant	Large	Large	Table

(Continued)

344 grape (*Vitis vinifera*)

American bunch grape variety	Color	Time of ripening	Characteristics	Cluster size	Berry	Use
Moore Early	Deep purple	Early-mid season	Medium vigor, low production, hardy	Medium	Large	Juice, jelly, wine
Niagara	White-light green	Mid season, Sept.	Vigorous, hardy, productive, disease resistant	Medium, compact	Large, tangy, foxy flavor, firm	Table, juice, jelly, wine
Ravat 51	White	Early-mid season	Vigorous, medium production, hardy	Small, compact		Wine
Seibel 4986	Pink	Late-mid season	Medium vigor, cold tender, medium production, disease-resistant, fruit rot	Medium-large, compact	Medium	Wine
Rayond'Or						
Seibel 5279	White	Early	Vigorous, medium disease-resistant, productive	Medium long, loose		Wine
Aurore						
Seibel 7053	Purple	Late-mid season	Vigorous, productive	Medium, slightly loose	Medium	Wine
Chancellor						
Seibel 9110	White	Mid season	Vigorous, cold tender	Large, loose	Oval	Table, wine
Verdelet						
Seibel 9549	Purple	Early-mid season	Medium vigor and production	Long, loose	Medium	Wine
De Chaunac						
Seibel 10868	Pink	Mid season	Vigorous, productive	Medium-large	Small	Wine
Seibel 10878	Purple	Mid season	Vigorous, cold tender, productive, disease-resistant	Medium-large		Wine
Chelois						
Seibel 13053	Purple	Early	Hardy, medium production, disease-resistant	Medium-small	Medium	Wine
Cascade						
Seneca	White	Early	Medium vigor, medium hardy, productive	Medium	Oval, crisp	Table
Seyve-Villard 5-276	White	Early-mid season	Medium vigor, productive, disease-resistant, fruit rot	Large		Wine
Seyval Blanc						
Seyve-Villard 12-375	White	Late	Vigorous, disease-resistant, productive,	Medium-large		Table, wine
Villard Blanc						
Seyve-Villard 18-315	Purple	Late	Vigorous, disease-resistant, productive	Medium-large		Wine
Villard Noir						
Sheridan	Purple	Late	Concord-type			Table
Steuben	Purple	Late-mid season, late Sept.	Vigorous, medium hardy, productive, disease-resistant, Concord-type	Medium-large	Medium	Table, wine
Stover	White	Florida and Gulf Coast	Medium vigor, hardy, productive, Pierce's disease-tolerant	Medium	Medium, oval	Table
Van Buren	Blue	Early	Vigorous, hardy, Concord-type			Table, wine
Vidal 256	White	Late	Vigorous, fairly disease-resistant, productive	Long	Small	Wine
Worden	Deep purple	Early-mid season	Vigorous, hardy, productive	Medium-large	Large, Concord-type	Juice, jelly, wine

grapefruit (forbidden fruit; pamplemousse; shaddock; *Citrus paradisi*) 345

1 bu = 48–50 lb
 = 16–20 qt, canned
 1 lug (5.75 × 13.5 × 16.5 in.) = 28 lb
 1 basket crate (4.75 × 16 × 16.1 in.) = 20 lb
 one 12-qt basket = 18 lb
 one 4-qt basket = 6 lb
 1 qt, canned = 2½–3 lb, fresh
 1 lb, seedless, red or green
 = 84 medium grapes
 = 3 cups halved
 = 2½ cups (1 cup = 170 g or 6 oz)
 = 4–6 servings
 1 lb, seeded = 2 cups (1 cup = 185 g or 6.5 oz)
 1 lb, fresh Tokay = 2.75 cups, seeded
 1 lb, fresh Concord = 1 qt
 1 lb, grape halves = 2.25 cups
 1 cup, seedless, red or green = 5.5 oz
 1 grape = 4 g

To ripen: Store in open air at room temperature; keep out of sun

Storage (when ripe): Uncovered (85–90% relative humidity); refrigerate (30–32°F); freezing point 24–27°F; use in 3–5 days See *Aspergillus black-mold rot*

See Part 2: Beverage (Carbonated), Ingredients; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Frozen Food Storage; Fruit Availability; Fruit Canning Dates; Fruit Classification; Fruit Composition; Fruit Servings per Pound; Fruit Storage; Minerals, Food; Minerals, Plant or Animal Tissue; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Rot Spoilage; Standards, Processed Fruit and Vegetable Products, Storage; Sugar, Fruit; Wine, Sweet

grape berry moth An insect with a ½-in. wingspan; appears in late spring or early summer; larvae are active, greenish caterpillars about ¾ in. long when fully grown; found on grapes (grape is host) throughout most of the eastern states

Damage: larvae feed on blossoms and developing fruit; berries are webbed together, turn dark, and drop from stem; holes in nearly ripened grapes; can be controlled by using cultural methods (clean up of debris) or insecticides

grape cane gall maker A small, reddish brown weevil; usually causes damage to the cane just above a lower joint

grape, canned Usually Thompson, seedless grape variety; in addition to seedless grapes, may also contain natural and artificial flavors, spice, vinegar, lemon juice, or organic acid

Percent sucrose in syrup

Extra light < 14

Light 14–18

Heavy 18–22

Extra heavy 22–35

grape cheese A mild-flavored, soft French cheese that is white and buttery-textured; the rind is covered by black grape skin and seeds

grape curculio A broad, dark brown, snout beetle about 1/16 in. long; not normally a problem on grapes when a program for control of grape berry moth is followed

grape flea beetle A dark blue, shiny, jumping beetle about 3/16 in. long; larvae are light-brown grubs with

black spots and are up to 3/8 in. long. They feed on buds and new leaves and are found on grapes ends; may be controlled by sprays

grapefruit (forbidden fruit; pamplemousse; shaddock; *Citrus paradisi*) Improved shaddock. A medium-large tree in which the large yellow-rind or sweeter pinkish (pomelo) citrus fruit grows in clusters; the fruit may have a yellow or pinkish pulp with or without seeds; consumed fresh, canned in segments, or made into juice and marmalade. Yield per tree up to 300 lb/yr; freezing point 29.8°F

Canned style: Usually packed with sugar, seeds removed, picked at a more mature stage; less astringent and less bitter

Pink segments

White segments

Types:

Bright—pale, yellow rind

Russet—yellow with russetting

Sizes (number of grapefruit/box)

Large—sizes 28, 36, 46

54 is 4¾-in. diameter

Medium—size 64 (4½-in. diam)

Small—sizes 70 (4¼-in. diam), 80, 96, 126

Equivalents:

1 Florida, Texas box (12 × 12 × 24 in.) = 80 lb

1 California box (11.5 × 11.5 × 24 in.) = 64–67 lb

1 case (24), No. 2½ cans

= 0.83 box, fresh grapefruit

13½ oz, frozen = 3–4 servings

1 medium-size grapefruit

= 4½ in. in diameter

= 570 g (1¼ lb)

1 lb, fresh (1 medium size grapefruit)

= 1 cup, sections (195 g or 6.8 oz)

1 cup, sections = 7 oz

1 cup, canned sections, solid and liquid = 8–9 oz

1 serving = ½ grapefruit and sugar

Variety	Pulp color	Seed	Flavor
Duncan	White	Seedy	Excellent
Marsh	White	Seedless	
Ruby	Pink	Seedless	
Composition (50% edible)	Raw pulp	Juice	Canned sections
Moisture (%)	87–89	89–90	80
Protein (%)	0.3–0.5	0.5	0.6
Fat (%)	0.1	0.1	0.2
Carbohydrate (%)	10–11	9–10	19
Fiber (%)	0.4–1.3	0.2	
pH	3.0–3.5	3.0–3.3	

Sugar 2.5 tsp/4 oz unsweetened juice; ascorbic acid 40 mg/100 g; ethylene gas will destroy chlorophyll and make grapefruit appear yellow and ripe

Storage: Unwrapped (80–85% relative humidity); in cool room (32–50°F); use within 1–4 weeks; short-term refrigeration is not harmful See also **citrus fruit**

See Part 2: Ascorbic Acid; Calcium, Daily Recommendations; Calories, Daily Recommendations; Citrus Fruit Storage; Flavoring Agents, Natural; Flavors, Beverage; Fruit and Nut Rootstock; Fruit and Vegetables, Composition; Food Composition; Fruit,

346 grapefruit (forbidden fruit; pamplemousse; shaddock; *Citrus paradisi*)

Availability; Fruit, Classification; Fruit, Composition; Fruit, Harvest Dates; Fruit, Juice Flavors; Fruit, Storage; Microwave Cooking, Fruit; Minerals, Food; pH Values of Biological Materials; Plant Foods, Composition; Potassium-Rich Foods; Standards, Processed Fruit and Vegetable Products; Storage; Thiamin; Transit Temperature; Vitamin C

grapefruit and orange (citrus salad) Canned (seed and membranes removed); approximately equal numbers of segments of each fruit; packed with natural juice of orange and sugar

grapefruit drink Simulated or diluted grapefruit juice products; amount of juice (if any) must be on label

grapefruit juice 100% grapefruit juice pressed from grapefruit, filtered, and pasteurized; juice from grapefruit (almost no rind oil), with or without dextrose (sweetened) that is pasteurized and canned
1 cup = 8.6–9 oz

Types:

- Unsweetened white
- Sweetened or sugar added white
- Unsweetened pink
- Sweetened or sugar added pink

grapefruit mix, powdered See powdered grapefruit mix

grapefruit oil, expressed (grapefruit oil, cold-pressed; oil of shaddock) The oil expressed from the peel of *Citrus paradisi*; used as a flavoring agent for food

Storage: full, tight, glass container in a cool, dark place
See Part 2: Grapefruit Oil Composition; Grapefruit Oil Properties

grapefruit soda Sweetened carbonated water, grapefruit juice, and a small quantity of lemon juice

grapefruit wine Wine, brandy, cordials, or citrus spirits made from grapefruit juice and sugar

grape, green Storage: refrigerate, in plastic bag, in crisper; will keep approximately 1 week

grape jubilee Canned, Thompson, seedless grapes that are artificially colored and flavored and sometimes spiced

grape juice The juice from grapes; usually combined with approximately 2% sugar
1 cup, canned = 8.8 oz

Types:

- Amber—Catawba grapes (clarified by sulfuring)
- Purple—Concord grapes

grape leafhopper (*Erythroneura comes*) A small, jumping insect that is white or pale yellow and has red or yellow markings; they suck juice from the grape leaves and cause white blotches that later change to brown; host plants are grape, apple, Virginia creeper, and other plants; the damage caused by sucking the sap is reduced vine growth and sugar content of grapes

Control: insecticide

grape leaves (vine leaves) The young leaves from grapes used as a vegetable; available fresh, in brine, and canned; are often stuffed with rice or used to wrap food fillings

grape mealybug (*Pseudococcus maritimus*) A whitish insect with a cottony-white coating; approximately $\frac{1}{4}$ in. long when fully grown; crawlers (young) present in early spring and again in early summer. They suck juice from canes, stems, and berries of grapevines, which weakens the plant; also pest of the pear; honeydew is deposited on fruit on which a sooty mold develops

Control: Applications of parathion or malathion

Grape-Nut Flakes A ready-to-eat cereal; fiber 11.1%; sugar 13%

1 cup = 135 g

Grape-Nuts A ready-to-eat breakfast cereal made from wheat flour and malted barley, rusk-type material; uses endosperm, 40% of bran, and all of the embryo; sugar 7%

grape pear See rock medlar; service berry

grape phylloxera A small, aphidlike winged insect that is orange or yellowish brown, has red eyes, and is up to $\frac{1}{16}$ in. long; young on foliage are yellow and soft-bodied and live inside galls or swellings; also causes galls when it attacks grape roots (sucks juice from roots) and foliage.

Control: Applications of lindane may control this insect

grape, pomace (marc) Composition (dehydrated): dry matter 91%; protein 12%; fat 7%; fiber 29%; ash 9%

grape rootworm A small, hairy, chestnut brown beetle, approximately $\frac{1}{4}$ in. long; white, brown-headed, hairy, curved larvae that infest and damage the roots of grapevines; the adult makes a chainlike pattern of holes in leaves.

Control: insecticides

grape skin extract A food additive used to color (purple-red) beverages

grape sugar See glucose

grapevine aphid A tiny, dark brown aphid that sucks sap; appears mostly in dry weather; plant hosts are grapes, black haw, and others.

Control: keeping vines vigorous and spraying vines with parathion or malathion

grape (wine) vinegar A vinegar made from the juice of grapes

Composition (min.): acetic acid 4%; grape solids 1%; grape ash 0.13%

graphite A form of carbon that is often used as a lubricant

grappa A rough tasting brandy distilled from fermented grape pomace

GRAS [generally regarded (recognized) as safe] An acronym used by the Food and Drug Administration in classifying food additives; "any... substance... generally recognized, among experts qualified by scientific training to evaluate its safety, as having been adequately shown... to be safe under the conditions of its intended use"

grass Any of a large group of plants of the order Gramineae, including cereal grains

grass carp (*Ctenopharyngodon idella*) A food fish

grasser Cattle direct from pasture

grass-fed beef Cattle fed on the range and not brought to the feedlot for finishing; fat will often have a yellow cast from the carotene (vitamin A) in the grass

grasshopper (*Melanophus* spp.) A brown, gray, black, or yellow insect with strong hind legs; up to 2 in. long; most are strong flyers; will eat large, ragged holes in the leaves and stems in many cultivated crops

grass pea See chickling vetch

grass tetany Muscular convulsions caused by low blood levels of magnesium or calcium; caused by high levels of potassium in grasses that tie up these minerals

Treatment: calcium gluconate or magnesium sulfate

grassy A bitter or astringent flavor that suggests green grass

grataron A strong-flavored, valençay-type cheese made with goat's milk and with a washed rind

grate To comminute a foodstuff, especially cheese or nutmeg, by friction against a roughened surface

gratieti A white, dessert wine

gratin au A browned cheese covering, for example, on potatoes

gratine Food sprinkled with bread crumbs or cheese and broiled until brown or a crust forms

gravel Small stones; 1 ft³, dry = 95 lb
See Part 2: Insulation, Conductivity Values

graves Dry, white wine; (also, a red called claret); a wine of fine bouquet and good flavor; produced in the Bordeaux (southwest district of France)

Color	Communes	Chateau
Red	Leognan	Haut Brion
	Martillac	La Misson Haut Brion
	Talence	
White	Leognan	
	Martillac	
	Pessac	
	Villeneuve d'Ornon	

gravid Pregnant

gravieri A Swiss cheese made from cow's milk

gravimetric analysis An analysis in which results are based upon weight, for example, specific gravity

gravitational acceleration The gravity constant g
= 32.1717 ft/s/s
See Part 2: Constants, Fundamental

gravity A measure of velocities and acceleration
1 gravity = 980.5966 centimeters per second per second
= 32.1717 feet per second per second

gravlaks Salmon, smoked and pickled in a brandy-flavored brine

gravy Cooked meat juice; sometimes thickened with flour or cornstarch

Types: beef, brown, chicken, herb, mushroom, onion, pork, and turkey

Stain removal from cloth: soak in cold water, wash, sponge with cleaning fluid if necessary

Storage: highly perishable, cover and store in refrigerator, use in 1-2 days

See Part 2: Storage Times

gravyer A hard cheese made from ewe's milk

gray (Gy) A unit in the International System (SI) that denotes absorbed irradiation dose; replaces the older unit rad

1 gray = 1 joule per kilogram
= 100 rad

grayback See lake herring

gray cheese A sour cheese made from skimmed milk and that has a gray interior and exterior color

Grayface A crossbred ewe produced when a Border Leicester ram is crossed with a Scottish Blackface ewe

grayfish (dogfish; *Squalus acanthias*) A small (average 7 lb) shark that is sold fresh, smoked, canned, and dried; its hide and liver oil are also used
See **dogfish**; **rock salmon**

See Part 2: Vitamin A, Fish; Vitamin D, Fish

"grayfriar" szurkebarat A full-bodied, medium dry, Hungarian table wine

gray leaf spot A tomato leaf spot disease that occurs on leaves that are frequently wet; prevalent in southern states; infected leaves develop small, dark brown spots that extend through to the underside of the leaf; the spots enlarge, darken, and become glazed; in warm, moist weather it will kill all leaves except those near the tip of the branches

Control: planting resistant varieties or applying captafol, chlorothalonil, maneb, or zineb.

See Part 2: Sorghum Diseases

grayling A small, freshwater food fish similar to a trout

Type:

Arctic—*Thymallus signifer*
European—*T. thymallus*
Michiganian—*T. tricolor*
Montanan—*T. montanus*

gray mold rot A pomegranate, strawberry, or fig rot caused by a fungus (*Botrytis cinerea*). The disease attacks strawberries at all stages of development

Control: proper spacing and correct timing of fertilizer applications are the most important factors; fungicides are also helpful.

In pomegranate the skin becomes tough and leathery and the inner part of the fruit is darkened and disintegrated

Control: Can be retarded by temperatures below 45°F
In figs the tissue softens, juice leaks out, and a gray mycelium covers the surface

Control: growth retarded by refrigeration (40-45°F)
See **botrytis rot**

gray riesling Grapes; a white, Rhine wine for table use made from riesling grapes

gray snapper A marine fish similar to the bass

gray sole A small flatfish with white flesh See **sole**

gray trout See **sea trout**

grazalema A golden, hard, pressed cheese made from sheep's milk

graze To consume standing vegetation

grease Fat with a titer of less than 40°C; low-quality fat, usually rendered and reconstituted; to rub or coat butter or fat or oil over the surface of a food container or cooking utensil to keep food from sticking. Stain removal from cloth: apply laundry detergent directly to stain and let set for several hours; sometimes a cleaning fluid (solvent) will be required

greasewood A plant having a toxic principle
See Part 2: Poisonous Plants

grease wool Wool that is shorn from sheep and has not been processed

greasy A texture that suggests high fat or oil content; coated with fat

great blue shark (*Prionace glauca*) A food fish

greater than (>) A symbol used in scientific notations; the symbol for greater than or equal to notation is \geq

Great Lakes herring (*Coregonus clupeiformis*) A freshwater white fish

great weever (*Tachinus draco*) A food fish

Greek

Food habits:

Animal products—eggs

Beverage—black coffee

Dairy products—butter, cheese, fermented milk, sour cream

Grains—rice, wheat

Seasonings—honey, onion, pepper

Vegetables—broccoli, cucumber, dandelion, eggplant, leek, okra, tomato

Greek coffee See **Turkish coffee**

green 1) Fruit is usually immature or not ripe. 2) Wine is young or fresh or immature. 3) Cheese that has not been aged

greenback See **lake herring**

greenbug (*Schizaphis graminum*) A small, green, soft-bodied insect that sucks sap and injects a toxic substance into small grain

green cheese 1) Sage cheese (green cheese); a cheddar-type cheese colored and flavored with sage leaves or colored green and flavored with sage extract. 2) Cream cheese that must be eaten fresh. See **glarner**

green chop (soilage) Cut and chopped forage hauled to livestock for feed

green clover worm An insect whose larvae eat soybean leaves

green cod See **pollock**

greenfish (*Girella punctata*) A food fish. See **pollock**

greenfly An aphid that attacks vegetables

green foxtail (*Setaria viridis* L.) An annual weed

green fruitworm A greenish or greenish white caterpillar that looks like a climbing cutworm; it is up to 1½ in. long; larvae have a white or yellow stripe on each side; they eat leaves and make large holes in fruit

greengage (*Prunus institia*) A variety of plum

green gram (mung, *Phaseolus aureus*) A tropical pulse that has a pod containing up to 15 seeds that may be green, brown or mottled; used as a pulse or to produce bean sprouts. See **bean, mung; mung bean**

green Hungarian A white, table wine

greening 1) A variety of apple that is in season from October to January; they are good cooking and sauce apples and fair eating apples. 2) Undesirable green discoloration in meat

green June beetle The adult green beetle has a 1 in. long, somewhat flattened body; the 1½ in. larvae are white grubs that crawl on their backs. The adult feeds on the leaves and fruit of peaches; larvae feed on roots of grasses

green kern Dried, green wheat used in stews and soups

green lamb mint See **spearmint**

Greenland cod (*Gadus ogac*) A food fish

Greenland halibut (*Reinhardtius hippoglossoides*) A food fish

Greenland shark (*Somniosus microcephalus*) A food fish

greenland turbot (*Reinhardtius hippoglossoides*) A species of Pleuronectidae, right-eye flounders; a finfish with light meat and light to moderate flavor

green laver (*Enteromorpha linza*) Edible seaweed harvested in Japan. See **lettuce laver**

green liquor An alcoholic beverage made from parsley

green-mold rot A citrus fruit rot caused by *Penicillium italicum*

Stages of development

Pinhole rot—spots $\frac{1}{4}$ – $\frac{1}{2}$ in. diameter

Blister rot—spots 1½–2 in. diameter

Spore growth

Refrigeration of fruit at 40–45°F almost completely retards growth

Green mountain A variety of potato

green peach aphid (spinach aphid; tobacco aphid; *Myzus persicae*) Yellow-green or pinkish green, wingless and winged aphids that are also found on beets, cabbage, celery, chard, cole crops, dandelion, endive, lettuce, mustard greens, parsley, pears, spinach, and turnip; often also spreads several virus diseases

green revolution The development in Mexico of a dwarf, stiff-strawed, high-yielding, spring wheat that has been important in increasing yields in India, Pakistan, Afghanistan, Iran, Turkey, and Tunisia; principles now are being applied in other countries; new high-yielding or greater nutritional value varieties of traditional crops combined with some fertilizer was introduced into food-deficient countries and resulted in a dramatic increase in food production. See **Borlaug, Norman**

green (drip) room A room where temperature and humidity are controlled to encourage fermentation; used before product is placed in drying room

greens (pot herbs) The leaves of certain vegetables that are cooked and used for food; includes leaves and stems of beet tops, broccoli leaves, chard, chicory or witloof chicory (French endive), collards, cornsalad or lamb-lettuce (*fetticus*), cress, dandelion, endive (*escaroli*), escarole, head lettuce, kale, leaf lettuce, mustard greens, New Zealand spinach, parsley, sorrel, spinach, swiss chard, turnip greens

Uses: raw or cooked

1 pound, fresh = 4 servings

= 4–6 cups cooked

16 oz, canned = 2–3 servings

1 cup, cooked = 190 g (6.7 oz)

$1\frac{1}{2}$ –6 lb (2 lb avg), fresh = 1 qt, canned

2– $2\frac{1}{2}$ lb, fresh = 1 qt frozen

1 bu, fresh = 12–18 lb

= 3–8 qt, canned

See Part 2: Canned Yield; Minerals, Food; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetables, Cooking Frozen; Vegetable Storage

green shrimp Raw shrimp in the shell

green sloke An edible seaweed

green tea Tea made from leaves that have been steamed, rolled, and dried without fermentation; fired immediately after picking; lowest in caffeine content. A beverage that is greenish yellow, bitter, astringent, has little aroma or flavor, and good body

Types:

China pouchong—delicate aroma and taste

Gun powder green—picked as young, budding leaves and rolled into tight balls (to improve keeping quality); produces a tea with clear liquor, penetrating flavor, flowery taste, and sharp body

Imperial

Lung ching green dragon—long grained, velvet textured

Panfried Formosa—light in cup, mellow, tart

Panfried Japan—sweet, clear, and soothing

Pinhead gunpowder—tiny, tightly rolled, pleasing aroma

Young hyson

Zen—mystical aroma

Green tea is prone to staleness

Green turtle soup A soup made from turtle stock, turtle meat, browned flour, and seasoning

green weight The weight of fresh, uncured, uncooked meat (bone-in, semiboneless, or boneless) before processing

green white An egg infected with *Pseudomonas*; in the advanced stages the white takes on a greenish cast

green wine A carbonated, just ripe, red or white grape juice wine

grenache A grape used to make rosé wine

grenadilla See **granadilla**; **passion fruit**

grenadin Larded and braised slices of veal

grenadine Liquid sugar made from pomegranate juice

grenadine syrup A syrup made from pinkish red juice of the pomegranate

greveost Swiss cheese made from cow's milk

GRF See **growth hormone releasing factor peptides**

grid A controlling element in a tube; usually between the cathode and anode

griddle A flat utensil for frying or broiling

See Part 2: Broiling Griddle, Meat

griddle cake A pancake made from flour ($1\frac{1}{2}$ –2 parts by volume), liquid (1 part by volume), leavening agent, salt, and sometimes eggs and/or fat and/or sugar; originally made with meal and water

See Part 2: Calories, Daily Recommendations

Griess reagent A mixture of sulfanilic acid and alphanaphthylamine used to develop color in nitrite determinations See also **nitrite**

Grignard's reagent An alkyl or aryl magnesium halide

grignolino A variety of grapes; a light-bodied, Italian, red, table wine made from grignolino grapes

grill To broil See also **broil**

grillkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned (potato starch, skimmed milk powder), beef and pork and stuffed into a peelable, pork casing

grillkorvett A moist, cooked, smoked Swedish sausage made from finely chopped, medium seasoned (potato starch, skimmed milk powder), beef and pork and stuffed into a peelable casing

Composition: fat 11%

grillpölse A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork that is stuffed into a casing

grillpylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned beef and pork with pork fat added and stuffed into an artificial casing

grilse Salmon returning from the sea to freshwater for the first time

Grimes Golden A variety of apple that are in season from September to December; excellent sauce and eating apples, and fair to good cooking apples

grind To reduce to small pieces, usually with a machine designed for the purpose; pulverize; mince; comminute; size from coarse to fine, for example, coffee; meat

gris de lille (puant de lille; puant macere) Very strong flavored (long maturation) cheese made from cow's milk

griskin 1) Backbone area of pork. 2) Thin slices of loin

grissini 1) Salt sticks. 2) Bread sticks; crisp pencils of French bread; Italian bread

grist See **beer**

gristle A smooth, elastic cartilage that is undesirable in cooked meat

gristly Cartilaginous-like texture

grits (hominy grits) Coarsely ground grain (often buckwheat or corn) that has the bran and germ removed (largely endosperm)

1 dry cup = 180 g

Dry composition: fiber 10%

See **corn grits**; **hominy**; **oat**

350 grits, by-product (hominy feed)

grits, by-product (hominy feed)

Composition	Grits by-product	Dent white grits by-product
Dry matter	90	90
Protein	10.4	10.6
Fiber	4.8	5.1
Fat	6.5	8
Ash	2.8	3

gritty Containing hard, sand-like particles

grk A strong, white wine

groat Oatmeal, sometimes whole and sometimes crushed; grain without hulls; husked oats or wheat; kernels of any grain; often barley, buckwheat, or oats

grog A mixture of rum and water

grosela (gooseberry; *otaheiti*) A green acidic fruit grown on trees; eaten stewed with sugar

gross energy The total energy in a foodstuff

gross national product (GNP) Total market value of a country's output of final goods and services for a year; can be in either current or constant dollars

grottenhof See **Limburger cheese**

ground beef Comminuted skeletal beef, normally 30% fat; chuck averages 20% fat; an uncooked, unsmoked American sausage made from medium to coarsely chopped, restructured, ground, pressed, formed, molded, or sliced beef with no added water, binders, or extenders; max. cheek meat 25% See also **hamburger**

See Part 2: Beef Cuts; Beef Retail Yield; Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Meat Composition

ground beef patties Shaped meat made from ground fresh or frozen beef

ground beetle Usually a dull black or brown, long insect that has an oval body and narrow head; larvae have slender, flattened bodies that taper slightly at the tail and contain two spines or bristles at the hind end; beneficial because they feed on caterpillars and other insects

ground cherry See **gooseberry**

ground color The color of the "skin" of a developing fruit, which may be blushed, striped, or washed with a different over color; basic or background color before ripening; often can be seen beneath or between the ripened color

ground furze See **rest harrow**

ground glass joint Standard taper all are a 1:10 taper; first number is diameter (in mm) of the large end; second number is length of ground zone (e.g., $\frac{24}{40}$ = 24 mm in diameter large end of ground zone and ground zone is 40 mm in length). Ball and socket: first number is ball diameter in mm; second number is inside diameter of tubing

ground lamb See Part 2: Lamb Cuts

ground lean See Part 2: Meat Composition

ground limestone A liming material composed of 80-95% CaCO_3 ; each pound has the neutralizing

equivalent of 0.85-1.00 lb of CaCO_3 (or approximately this quantity of dolomitic limestone)

ground meat Comminuted meat; usually made by passing it through a machine equipped with a worm or screw of decreasing flight that forces the meat through a cutting die

Storage: Coldest part of refrigerator; use within 1-2 days

See Part 2: Meat, Frozen Storage; Meat, Servings per Pound

groundnut See **peanut**

ground nut, bambara (madagascar nut; Voandzeia subterranea) A semiarid legume that forms its fruit underground; similar to groundnuts except it contains little oil; unripe seeds are eaten fresh; ripe seeds are used as pulse

groundnut, Kersting's (Kerstingiella geocarpa) Small, annual, semiarid legume with underground fruiting; similar to the bambara ground nut; both the unripe and mature seeds are used as pulse

ground rot See **soil rot**

grounds (dregs) The ground coffee bean remaining after having been extracted with water

groundsel A plant having a toxic principle

See Part 2: Poisonous Plants

ground substance Aqueous matter containing connective tissue and surrounding the cell

See Part 2: Connective Tissue Proteins

group 1) One of the major vertical divisions of the Periodic Table of elements. 2) An uncharged combination of two or more elements that acts as a unit in a chemical reaction, for example, hydroxyl group (OH), sulfate group (SO_4), carbonate group (CO_3), and carbonyl group ($\text{C}=\text{O}$). When such a group is ionized it acquires an electric charge and is then called a radical. See also **alkyl group**; **aryl group**

grouper (aguaji; black; cabrillas; chernas; gag; guasas; hinds, Jew fish; red; scamp; speckled hind; yellowfin; Epinephelus morio) Any of a number of lean fish that resemble the sea bass; caught in the south Atlantic and Gulf; a finfish that has light meat and very light, delicate flavor

1 fillet = $\frac{1}{2}$ -2 pounds

Oceania, syn. hapuku (Australia)—*Polyprion oxygeneios*

Atlantic—*Epinephelus* spp.

Composition (raw): moisture 79%; protein 19%; fat 0.5%; ash 1.2% See **sea bass**

grouping orders Special price reductions obtained by the buyer when offering the supplier a "package" order for all items on a group of similar products

grouse (European—Lagopus scoticus; Tetraoninae) A game bird used for food

Type

Black—Europe

Blue—U.S.

Bob white (quail in north and partridge in south)—U.S.

Caperillie—Europe

Dusky—U.S.

Franklin's—northwest U.S.

Prairie chicken—North America

Parmesan—North America

Red—Europe

Ruffed (partridge in north and pheasant in south)
—North America

Spruce—northern Canada

groviera A Swiss cheese made from cow's milk

growing degree days (GDD; heat unit) A measure of earliness or lateness; one unit for every degree (Fahrenheit) that the average daily temperature is above 40°F, e.g.

Average daily temperature	GDD
41°F	1
65°F	25

growing season See Part 2: Fruit, Growing Season, Storage Life

growler 1) Container (usually a quart) for holding beer 2) Largemouth, black bass

growth An increase in size and weight; irreversible increase in physical attributes

growth crack Deep cracks around the stem scar on tomatoes

growth factor A substance that an organism cannot synthesize and that must be supplied for growth of the organism

growth hormone See somatotropin

growth hormone releasing factor (GRF) peptides Induces somatotropin release

grozdova A brandy

grub An insect larva or chrysalis such as that of the heel fly; a parasite of cattle that makes holes in the hide in the back area

gruel A thin (almost liquid) cereal (usually strained oatmeal); thin, semiliquid mixture of oatmeal boiled in milk or water and used as food; porridge made from cereal; feed mixed with water

grumello An Italian, red wine

grumichana A Brazilian fruit

grunberger A nearly dry, white wine

grundruk Fermented, dried vegetables

grunello A dry, delicate, red wine

grunerkäse See glarner

grunion smelt See smelt

grunschimmelkäse A blue cheese

grunt (red mouth; *Haemulidae*; *Pomadasyidae*) Several tropical, marine fish used for food; up to 20 lb

grusarin Yogurt

grusevina A ricotta-type cheese made from cow's milk; usually consumed fresh with herbs

gruyère A firm-textured Swiss or French Emmental-type cheese made from skimmed cow's milk (also a whole and skimmed milk type); small wholes, 20–50 kg

Composition: moisture 33–34%; protein 29–30%; fat 32–33%; carbohydrate 0.3–0.5%; fiber 0%; ash 4–5%; sodium 95 mg/oz

gruyère cheese A semihard, light-yellow, dessert and cooking cheese from Switzerland; usually sold in small wedges wrapped in foil or flat wheels; it has a nutlike, sweet flavor and is made from partly skimmed, cow's milk; it is ripened for 3 mo. or more; Emmental-like but with fewer, smaller, holes and a creamier texture; similar to Swiss but sharper; made from pasteurized, inoculated milk, rennet added, and scalded; not textured and pressed

1 cup, shredded = 4 oz

See Part 2: Cheese Vitamin Content; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

gruyère de comté A Swiss cheese made from cow's milk

gruyère processed cheese Gruyère cheese that is melted and blended with other types of cheese to produce a mild and creamy cheese

guacamole A mashed avocado mixture

guaiaic 1) An antioxidant used (up to 0.1%) to retard rancidity in fats 2) A vegetable gum from West Indies.

See Part 2: Antioxidant Structure

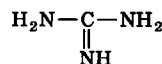
guajaqueño A string cheese made from goat's milk and that has long, narrow, wound fibers

guajillo A plant having a toxic principle

See Part 2: Poisonous Plants

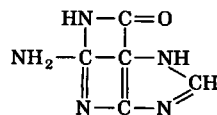
guanabana See sour sop

guanidine A nitrogenous compound found in animal and plant tissue; made by reaction of urea and ammonia



δ-guanidino-α aminovaleric acid See arginine

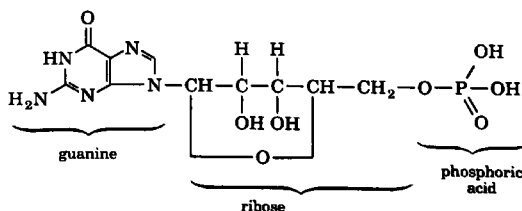
guanine A nitrogenous compound found in animal and vegetable tissue; made by hydrolysis of nucleic acids



guano The residue of manure of fish-eating birds; used as fertilizer

gunano phosphate The manure and dead bodies of fish-eating fowl

5' guanosine monophosphate (guanylic acid) A flavor potentiator; also an important growth factor (an RNA nucleotide)



352 guanylic acid

guanylic acid See 5' guanosine monophosphate

guar See cluster bean

guarana A South American plant (climbing herb) used to brew a bitter-tasting drink that has 3–5 times as much caffeine as coffee; also high in tannin

guarantee A warranty by a seller under contract to a buyer to answer for the quality of the items sold and delivered

guaranteed loan An agreement by which the government guarantees repayment of a loan made by a private lender

guar flour See guar gum

guar gum (guar flour) A water-soluble gum obtained from the endosperm of the seed of a leguminous plant (*Cyamopsis tetragonolobus*); mol. wt., 200,000–300,000

Uses: a suspending agent, thickener (5–8 times the thickening ability of starch), stabilizer, binder, water-binding agent, and mixture aid in ice cream and to increase the resiliency of doughs; in cakes, pie fillings, cheese, canned food, beverages, icings, and dressings; also as livestock feed

Storage: well-closed container

See Part 2: Gum Characteristics; Gums and Gelling Agents; Gums, Physicochemical Properties; Stabilizers, Thickeners

guasas See grouper

Guatemalan high grown coffee A hard-bean coffee that has a light and dry, winelike flavor

guava [Cattley guava; *Psidium cattleianum* (cattleyanum); *P. guajava*] A small tree that produces a round, oval, oblong, or pear-shaped, green to yellow fruit (1½–3 in. diameter) that becomes yellow when ripe; the pulp (white, yellow, pink, or red) is juicy, acid to sweet, pungent, and full of small, hard seeds

Uses: can be eaten raw, stewed, made into tarts, jam, and jelly, canned, or made into vinegar

High in vitamin C content (ascorbic acid 302 mg/100 g) and vitamin A (250 IU/100 g)

Variety

Common guava—plum size; yellow in color; seed can be eaten

Indian red—eaten fresh

Pineapple

Ruby X Supreme—eaten fresh

Strawberry guava—small; red in color; white pulp; acid taste

Does not ship well

1 fresh, whole = 2.8 oz

Composition (raw): moisture 81–83%; protein 1%; fat 0.6%; carbohydrate 16%; ash 0.7%

See Part 2: Fruit Classification; Fruit Composition;

Fruit Storage; Plant Foods, Composition

guava cheese See guava paste

guava paste (guava cheese) A reddish or yellowish, fragrant, very thick jam made from the guava fruit; used for dessert with crackers and cheese

gudbrandsdalsost A mysost-type cheese made from cow's or goat's milk

gudgeon (*Gobio gobio*) A small, freshwater food fish

guedj A strong flavored, dried, salted fish used as flavoring for food

Guernsey A breed of dairy cattle that originated on the island of Guernsey; color is shade of fawn with white markings clearly defined

See Part 2: Dairy Cattle Breeds; Gestation Periods; Milk Breeds, Composition; Milk Composition

Guernsey gauche A tea bread made with currents and mixed citrus peel

gueze A sparkling, golden, sour beer

gugelhupf An open-textured sponge cake made from wheat flour and covered with chocolate or almonds

guide price An European Economic Community (EEC) trading term that is fixed annually for a 12 month period usually starting on April 1

guinea (guinea keets; keets; *Nemida meleagris*)

A medium-sized species of poultry similar to pheasant; raised for food; the small eggs (100 per year) are also used for food; it has dark plumage speckled with white. Guinea chicks are called baby keets. Flesh is darker in color and more gamy in flavor than chicken; sold at 15–18 weeks of age

Live weight is 2½–3½ pounds

Dressed weight is 2½–2¾ pounds

Varieties

Lavender—light gray or lavender plumage regularly dotted with white

Pearl—purplish gray plumage dotted with white

Splashed (Pearl or Lavender X White)—breast and flight feathers are white; remainder is pearl and lavender

White—white plumage, lighter than pearl

Classes

Young guinea—may be of either sex; has tender meat and a flexible breastbone cartilage

Mature guinea (old guinea)—may be of either sex; has toughened flesh and a hardened breastbone

Composition (flesh and skin, raw): moisture 68.90%; protein 23.40%; fat 6.45%; ash 1.25%; total carbohydrates 0.0%

See Part 2: Poultry Class

guinea corn See millet

guinea egg Average weight 1.4 oz; incubation period 26–28 days

Incubator conditions:

Turn eggs 5 times per day for first 24 hr

Forced draft incubator: 99.5–99.7°F and 57–58% humidity; last week: 97°F and 60% humidity

Still air incubator: 102°F and 57–58% humidity

guinea grade See poultry grades

guinea palm See palm

guinea pig (*Cavia cobaya*; *C. porcellus*) A rodent; much used for experimental work

guinea plum A large tree with plumlike fruit that lacks the flavor or acidity of the plum

guin-hen A cross between a guinea and a chicken; usually sterile; may be as large as a chicken with a bare head and neck area

guinness A strong, dark bitter stout; a draught or bottled (less pungent in flavor and appearance), stouttype of beer

guisado Stewed

guisantes See **gisantes**

gul A liqueur flavored with rose petals

gula malacca A brown sugar made from the coconut

gullet Throat; esophagus

gulose ($C_6H_{12}O_6$) A water-soluble syrup that is not fermentable by yeast

See Part 2: Sugar, D-Aldehyde

gulyas A beef (or other meat) stew See **goulash**

gum 1) A hydrophilic colloid obtained from tropical trees and shrubs as well as from seaweeds. They are polysaccharides that, when dissolved or dispersed in water, give a viscous solution or dispersion; water-soluble thickener

Functions in food

Binding

Coating

Emulsifying

Gelling

Stabilizing

Suspending

Thickening

2) Tissue between the jaws that surrounds the teeth
3) Insoluble material formed by polymerization of fats during heating (highly unsaturated fats are most susceptible) See **candy**

See Part 2: Gum Characteristics; Gum Distribution; Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Gums, Physicochemical Properties; Pentosans; Stabilizers, Thickeners; Water Activity, Organisms and Food

gum acacia See **gum arabic**

gum Arabic (**acacia**; **acasia gum** **gumacacia**; **gum acacia**; **gum Senegal**) A dried, gummy exudation from branches of the *Acacia senegal* or of related species *Acacia* (Leguminosae family) grown in the Sudan area of Africa; a mixture of Ca, Mg, and K salts of arabic acid

Uses: stabilizer, thickener, crystallization retardant, foam stabilizer, flavoring agent, processing aid, humectant, surface finishing agent, and emulsifier

Available: tears, flakes, granules, powder

Composition: max. ash 4%; max. acid insoluble ash 0.5%

Causes allergic reactions in a few people

Storage: well-closed container

See Part 2: Gum Characteristics; Gum Distribution; Gums, Physicochemical Properties; Stabilizers, Thickeners

gumbo (gombo) A soup thickened with filé or okra.
See **buckshot soil**; **okra**

gumbo filé Powdered, dried, green, sassafras leaves

gum dragon See **gum tragacanth**

gumdrop

About $2\frac{1}{2}$ large or 20 small (1 oz) = 100 calories

See Part 2: Sugars and Sweets Composition

gum gatto See **locust bean gum**

gum ghatti (gatty gum; ghatti gum; Indian gum)

A polysaccharide exudate from the *Anogeissus latifolia* tree; a general purpose food stabilizer, thickener, or texture modifier

See Part 2: Gum Distribution; Gums and Gelling Agents

gum guaiac (guaiac resin) The resin from wood of *Guajacum officinale* or *G. sanctum*

Uses: a food antioxidant or preservative

Storage: well-closed container

gum jum See **tiger lilies**

gum karaya (India gum; Indian tragacanth; karaya; katilo; kullo; kuterra; mucara; Sterculia) The dried exudate from the *Sterculia urens* tree grown in India; mol. wt. 9,500,000

Uses: an emulsifier in dairy frozen desserts, cheese, meat sausages, bakery products, and salad dressings; also used as a food stabilizer, thickener or texture modifier

Expands 100 times in volume when added to water

Storage: well-closed container

See Part 2: Gums and Gelling Agents; Gum Characteristics; Gum Distribution; Gums, Physicochemical Properties

gumming Polymerization of fat caused by heating; forms an insoluble, syrupy material; occurs more often in unsaturated fatty acids

gummy 1) An old ewe with incisor teeth broken or missing 2) Semisolid texture

gum rosin Rosin remaining after distillation of gum spirits of turpentine

gum Senegal See **gum arabic**

gum spirits of turpentine Spirits of turpentine made from the oleoresin from a tree of the pine species

gum syrup (bar syrup; gomme syrup; simple syrup; syrup gum) A mixture of water, sugar, and gum arabic

gum tragacanth (bassora gum; goat's horn; leaf gum; Syrian gum) Exudate from *Astragalus* bush that yields the highest viscosities at the lowest concentration for edible gums

Uses: a food emulsifier, thickener, or stabilizer; a base for ice cream powder and gelatinous desserts

Causes allergic reaction in a few people

Percent to use	Food
1.3	Fats and oils
0.8	Gravies and sauces
0.7	Condiments and relishes
0.2	Baked
0.2	Meat products
0.2	Processed fruit
0.1	Other categories

Storage: tight container

gum tragans Edible gum secretion of a shrub
See Part 2: Gum Characteristics

gum tragon See **locust bean gum**

gunnel See **butterfish**

354 gunpowder green

gunpowder green See green tea

guns See stitches

guppy (*Girardinus guppyi*) A $1\frac{1}{2}$ -2 in. long Caribbean fish often kept in aquariums; food fish

gupsum A substance that, when burned, forms a white powder called plaster of Paris

gur See sugar cane

gurdzhaani A white wine

gurnard (**gurnet**) A spiny, marine, finfish that has white flesh and is used for food

Gray (*Eutrigla gurnardus*)—North Atlantic
Piper

Trigla lyra—Atlantic

T. capensis—South Africa

Red (*Eutrigla cuculus*)—North Atlantic

Red (*Chelidonichthys kumu*)—Japan

Shinning (*Eutrigla obscura*)—Atlantic and Mediterranean

Streaked (*Trigloporus lastoviza*)—Atlantic and Mediterranean

Yellow (*T. lucerna*)—Atlantic and Mediterranean

gurry Fish offal remaining after filleting

guru nut See kola nut

gussing A tilsit-type cheese

gussing cheese An Austrian, brick-type cheese made from skimmed milk

gustation Tasting

gustatory Pertaining to the pleasure or sense of tasting

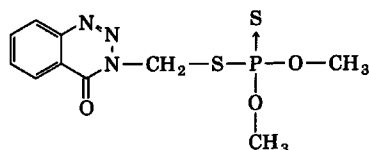
gut 1) Intestine or alimentary canal 2) To remove the alimentary canal

gut bread The pancreas

gutedel A grape; a white, Rhine-type, table wine made from the gutedel grape

gut fat The fat attached to the intestines

Guthion Proprietary name for a poisonous insecticide of the phosphorus ester type



gutsfleischwurst A moist, cooked, unsmoked, eastern German blood sausage made from fine or coarsely chopped, medium seasoned pork and stuffed into a beef or pork casing

gutsleberwurst A moist, cooked, unsmoked, eastern German sausage made from finely chopped, medium seasoned pork liver and stuffed into a pork casing

gutted fish (**eviscerated fish**, **drawn fish**) Fish with guts removed

Guzerat A strain of Brahman cattle

G value The number of molecules charged per 100 electron volts energy transferred to the system

gymnemic acid An acid that abolishes sweetness, restricts bitterness, but has no effect on salty or sour flavor

gyomiso A fermented, yellow-brown, salty (20-25%), fish paste condiment

gypsum (**land plaster**) Calcium sulfate; not the same as "plaster of Paris"; a fertilizer material used to supply calcium; CaSO_4 85%

See Part 2: Fertilizer Materials

gypsy A moist, cooked, Australian sausage

gyulai A dry, uncooked, smoked Hungarian sausage made from medium chopped, heavily seasoned, beef and pork and stuffed into a pork casing

gyulai kolbasz A beef or pork pepperoni seasoned with paprika and garlic

H The symbol for the element hydrogen

ha The abbreviation for hectare

habitat The natural home of a plant or animal

hable crème chantilly A semisoft, mild, double-cream cheese that is made from cow's milk and covered with white mold

HACCP Hazard analysis critical control points *See* **hazard analysis**

haché Minced

hackamore A rope halter

hackberry (sugarberry) The small, sweet fruit of an American tree; the fruit is made into jams, jellies, and preserves; the wood is good for firewood [21×10^6 Btu/cord (20% moisture)], medium-easy to start, and easy to split, producing light smoke, fair coals, and few sparks.

hackery An ox cart

Hackney A pony not over 14.2 hands, shown only at two-trot speeds (park pace, trot on), with a docked tail and the mane braided close to the neck; pulls a viceroy (a four-wheeled coach)

haddock [scrod (baby); *Gadus aeglefinus*; *Melanogrammus aeglefinus* (Atlantic); *Sebastes marinus*] A lean saltwater finfish that is similar to but smaller (avg. 4 lb) than the cod, with very lean, white meat and a very light, delicate flavor, and with a firmer texture but less flavor than the cod; caught in the North Atlantic

Sizes:

Jumbo—large haddock

Finger—small haddock

Large—over 2.5 lb

Scrod (baby)—1.5–2.5 lb

Snapper—under 1.5 lb

Available forms: canned; fresh; frozen; rizzared haddock (slightly salted, dried, and broiled); salted; smoked (finnan haddie); vinegar-cured

Types of smoked haddock:

Arbroath smokies—smoked; closed up; round

Finnan haddie—smoked haddock

Flat finnans—smoked; split

Composition (raw): moisture 80%; protein 18%; fat 0.1–0.5%; ash 1.4%; cholesterol 42 mg/3 oz

See also **demersal fish**

See Part 2: Fish and Shellfish, Composition; Fish, Smoked-Cured; Fish, Storage; Frozen Food Storage; Minerals, Food

haddock, smoked A lightly salted and cold-smoked haddock (whole fish, head removed, or filleted)

haem *See* **heme**

haem- A prefix used to indicate blood

haematinic Pertaining to blood; a substance that promotes the formation of blood

haemoglobin *See* **hemoglobin**

haemorrhage *See* **hemorrhage**

hafnium (Hf) A metallic element; at. no. 72; at. wt. 178.50; Group IVB of the Periodic Table; oxidation state +4; electron configuration 2–8–18–32–10–2 orbit K L M N O P

haggerel *See* **hoggett**

haggis A Celtic wurst; a moist, cooked, unsmoked British sausage made from medium- or coarse-chopped, medium-seasoned lamb stuffed into sheep casings; a pudding or sausage made from the pluck of an animal and other ingredients (often flour foods); a sheep stomach containing a heart pudding; a sausage

Hainan cattle A breed of slightly brownish light gray, thoracic-humped, draft cattle that originated on Hainan Island (southern China)

hair Can be used for fertilizer

hair felt *See* Part 2: Insulation

hair seaweed (rockweed; sea wrack; *Fucus* spp.) An edible seaweed that is used as a vegetable, condiment, or salad

hairtail A food fish

Atlantic—Scabbard fish

Japan—*Trichiurus japonicus*

hairy A variety of vetch

hairy brinjal *See* **hairy melon**

hairy melon (hairy brinjal) A long, green marrow that is similar to a cucumber and has white hair

hai tai An edible Asian seaweed

Haitian natural A mild, sweet coffee with fair body

hajdu A provolone-type cheese made from cow's milk

hajoshi cabernet A soft, vigorous, perfumed, red Hungarian wine

hakari Pickled shark

hake (deep-sea fillet; ling; red; silver; squirrel; white) A lean, codlike fish with a fin under the throat; used for food and oil; usually dried or salted

Atlantic (*Merluccius merluccius*)

Black (*M. senegalensis*)—eastern Atlantic

Cape, stockfish (*M. capensis*)—southeastern Atlantic; Indian Ocean

Chilean (*M. gayi*)—southeastern Pacific

Eastern Atlantic (*M. polli*)

Mediterranean (*M. mediterraneus*)

Oceania (*M. gayi*)

Pacific (*M. productus*)—northeastern Pacific

356 hake (deep-sea fillet; ling; red; silver; squirrel; white)

Red (*Urophycis chuss*)

Silver, whiting (*M. bilinearis*)—northwestern Atlantic

Stockfish—South Africa

Southwestern Atlantic (*M. hubbsi*)

White (*U. tenuis*)—Atlantic

Composition (raw): moisture 82%; protein 16.5%; fat 0.4%; ash 1.3%

See **whiting**

hal A sorghum beer

halal To slaughter food animals under Moslem law

halbstück A wine container

1 halbstück = 132 gal

halb-und-halb (half-om-half) A citrus liqueur made using bitter orange

Halehaven season The season for peach cultivars that ripen midseason, 2 weeks before Elberta peaches

half-and-half 1) A mixture of approximately 50% whole milk and 50% cream See **cream**

1 tbsp = 20 calories

1 cup = 315 calories

See Part 2: Dairy Terms

2) Half whiskey and half water. 3) A mixture of beers.

4) A mixture of ales. 5) A mixture of stout and bitter.

half-and-half, cream Composition (milk and cream, fluid): moisture 80.6%; protein 3.0%; fat 11.5%; carbohydrate 4.3%; ash 0.7%

half-and-half, sour Made by adding a bacterial starter culture to a mixture of milk and cream, which produces an acid flavor and a semiliquid to semisolid body; min. 10.5% milk fat

halfbeak (*Hemiramphus sajori*) A food fish See **candlefish**

half-glaze A brown sauce made with meat stock and sherry

half-life (half-value) 1) The time required for an unstable substance to lose half of its radioactivity. 2) The time required for half of a particular tissue to be replaced

half-om-half See **halb-und-halb**

halibut (ellbot; fletan) The largest member of the saltwater flatfish family; it may weigh from 5 to 800 lb and has lean, tender, white flesh; caught on the Pacific coast and in the North Atlantic.

Species:

Atlantic (*Hippoglossus hippoglossus*)

Pacific (*H. stenolepis*)

Chicken halibut is a young halibut under 3 lb

1-in.-thick steak = $\frac{1}{2}$ lb

Composition (raw): moisture 74–78%; protein 16–20.9%; fat 1–8%; ash 1–1.4%

See also **demersal fish**

See Part 2: Cholesterol Control; Frozen Food Storage; Minerals, Food; Vitamin D, Fish

halibut, chicken (ellbot) A young halibut (2–10 pounds)

halibut liver oil (haliver oil) An oil obtained by steaming the livers of halibut or flounder; rich in vitamins A and D; used as a dietary supplement

halite Rock salt

hallauer schublig A moist, cooked, smoked Swiss sausage made from fine- or medium-chopped, medium-seasoned beef and pork stuffed into a beef or artificial casing

halloumi A white, brined cheese made from goat's or sheep's milk

halo blight A disease of beans causing angular, brown spots on leaves and pods and causing the seeds to become blistered

halogen A group of electronegative elements (Group VIIA of the Periodic Table) that includes fluorine, chlorine, bromine, and iodine

halogeton A plant having a toxic principle

See Part 2: Poisonous Plants

halophilic Descriptive of microorganisms that will grow only if a very high salt concentration is present; salt-loving

See Part 2: Water Activity, Organisms and Food

halumi A white, brined cheese made from goat's or sheep's milk

ham The hind thigh area of a pork carcass; it may be cut in several lengths depending on desired size of the ham; a short-cut skinned ham is about 18% of the carcass; the meat may be sold fresh or cured but is usually cured and smoked. The term also refers to cured meat from this area

Ham types:

Foreleg—picnic ham or cala

Italian—cured and dried, not smoked; eaten without cooking

Kentucky—dry-cured, smoked, dried, and aged

Smithfield or Virginia—from hogs fed on acorns and peanuts; dry-cured, smoked, dried, and aged

Equivalents:

1 lb cooked ham = 3 cups bite-size pieces

1 cup, cubed, cooked = 0.5 lb

1 cup, ground, cooked = 0.5 lb

1 cup, julienne strips = 0.5 lb

1 cup, diced, smoked = 6 oz

1 cup sliced ham, cut into strips = 5 oz

Ham	Composition				
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Chopped					
Canned	61	16	18.8	0.3	4
Not canned	63.6	17	17.3	0	4
Extra-lean	70.5	19	5	1	4.2
Minced	57.4	16	21	1.8	3.8
Regular	64.6	17.6	10.5	3	4.1

Cholesterol (boiled ham) 51 mg/2 oz; sodium 1114 mg/3 oz (85 g)

Storage: In original wrapper; refrigerate; half-ham or slices should be used within 3–5 days; whole ham should be used within 1 week.

See Part 2: Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Calories, Daily Recommendations; Cooking in Liquid, Time; Ham Beetle, Red-Legged; Ham, Carving; Ham, Curing; Meat and Meat Products, Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat,

Servings Per Pound; Meat Storage; Microwave Processing Time; Pork Carcass, Retail Yield; Pork Chart; Pork, Cooking; Pork, Cooking Methods; Pork, Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Storage; Pork Wholesale Cuts; Pork Yield; Portion Size; Riboflavin, Food; Roasting Meat; Roasting, Time and Temperature; Simmering Meat; Spoilage, Protein Foods; Storage Times; Water Activity, Organisms and Food

hamaguri Clams

ham à la king Diced ham that has been cooked in a cream sauce

See Part 2: Portion Size

hama-natto A strong, black, soybean paste used as a flavoring

ham and cheese loaf (or roll) A loaf made from ground ham and cubes of firm cheese

Composition: moisture 58%; protein 16.6%; fat 20%; carbohydrate 1.4%; ash 3.8%

ham and cheese spread Composition: moisture 59%; protein 16%; fat 18.5%; carbohydrate 2.3%; ash 3.9%

ham and pork, chopped A moist, cooked, unsmoked Irish sausage made from medium-chopped, medium-seasoned beef and pork stuffed into an artificial casing

ham, ardennes Ham that is processed by having the fat and skin removed and the ham cut into two pieces along the bone; it is then long-cured, washed, boned, and the cut sections covered with cured bung, pressed in a pear-shaped form, and cold-smoked.

ham, Austrian An inexpensive ham made from lean ham pieces that are placed in a casing, baked, and smoked

ham, baked Ham that has been cooked by the direct action of dry heat to an internal temperature of 170°F

ham beetle (*Corynetes rufipes*) A red-legged beetle, with a green-blue body ($\frac{1}{4}$ in. long), that bores into meat, causing dry rot; the larvae ($\frac{1}{8}$ in. long) are purple and are found in cured hams.

See Part 2: Ham Beetle, Red-Legged

ham, Black Forest A dry-cured ham that has been given a long (up to 5 weeks), cold, heavy smoke over soft woods (e.g., pine or fir) to give a dark exterior color, and then thinly sliced; today a caramel dip may be used to aid in darkening the surface.

ham, boiled (cooked) A boned ham that has been placed in a metal container and steamed or cooked in water: A deboned and defatted ham is placed in a press mold and cooked in a water bath of 165–185°F to an internal temperature of 142–160°F; the pressure on the ham is increased while the ham is cooling.

hamborgarpylsa A moist, cooked, smoked, spreadable Icelandic sausage made from medium-chopped, medium-seasoned pork stuffed into an artificial casing; the product is sold in short casings.

ham, braised A ham (bone-in) that has been cooked in stock (e.g., champagne, white wine, madeira, port) in a closed pot

hamburger (hamburg) 1) The general term for ground or chopped, fresh or frozen, skeletal beef (max. 30% fat). 2) An uncooked American sausage made from medium- to coarse-chopped beef that is restructured, pressed, formed, molded, or sliced, with no added water, binders, or extenders. 3) A cooked ground beef patty served with a bun

Storage: In coldest part of refrigerator; use within 1–2 days.

See also **ground beef**

See Part 2: Frozen Food Storage; Meat Composition; Portion Size; Potassium-Rich Foods

Hamburg parsley (*Carum petroselinum fusiformis*) A vegetable whose root is used like carrot and leaves like parsley See **parsley, Hamburg**

ham, canned A ham that has been placed in a can and heat-processed

Storage (unopened): refrigerate; will retain optimum quality for 1 yr

ham capocollo Ham used to prepare capocollo

ham center The meaty section of a ham, containing only the small, round bone

ham, Chinese-style A fat ham that has been given a long-term dry cure and not smoked or cooked, but given a long aging period

ham, chopped A firm loaf made from cured pork that has been ground, chopped, or cubed; hamlike in color and flavor

ham, cooked

1 cup ham, $\frac{1}{2}$ -in. cubes = 6 oz

ham, cooked, jamon cocido A moist, cooked, unsmoked, mildly seasoned, Uruguayan, whole, boneless pork ham

ham, country A dry-cured, smoked ham produced in a rural area; maple, honey, and hickory flavors are used on some of these hams; 70-day minimum for curing, salt equalization, and drying; 4% salt in the finished product, and 18% moisture loss.

ham, country-style A dry-cured, smoked ham not produced in a rural area

ham, cured For the regular smoked product, the finished smoked weight will not exceed fresh, uncured weight; for the water-added product, *water* not in excess of 10% of the fresh, uncured weight and the product must be so labeled; other curing ingredients are not included in this 10%, so the total of added substances might be 12–14%.

Storage: refrigerate in original package; use within 1 week for best flavor (whole ham 1 week; half-ham 5 days; ham slices 3 days; cooked, leftover 1 week if chilled quickly)

ham, deviled A canned, finely ground (spreadable), sweet-pickled, highly spiced ham

Sodium content:

Deviled—253 mg/oz

Spread—258 mg/oz

See Part 2: Meat Composition

ham ends See **ham portion**

ham, fresh (leg of pork; pork leg) Uncured, hind leg of pork

358 ham, fully cooked

ham, fully cooked A ham that has been cooked to an internal temperature of 150°F

ham half The shank or butt half of a ham that has not had the center section removed

ham, hannover A dry-cured, boneless (top and bottom round), mildly cured ham, hand-tied and smoked for 2 days

ham ha sauce See **harm ha sauce**

ham, hickory-smoked A ham with the flavor of hickory, produced either by smoking over hickory chips or from liquid smoke

ham, honey-cured A boneless ham sweetened with honey

ham, imitation Ham with more than 10% added curing weight

ham, Japanese A pork loin that has been boned, placed in an artificial casing, and smoked

ham, laval A dry-cured, cold-smoked ham with a delicate flavor

hamlet 1) A large grouper (*Epinephelus striatus*), used as a food fish. 2) A large eel

Hamlin A variety of early Florida oranges

hama A paste of milk and parboiled wheat; called kishk when dried

ham, maple-cured A boneless ham sweetened with maple syrup

ham, maple-syrup A ham that has been cooked and covered with maple syrup before smoking (to seal in natural juices and to produce a dark exterior)

hammerhead (*Sphyrna zygaena*) A food shark

ham, minced A cooked, smoked meat speciality made of cured pork; ready-to-eat

ham, nonperishable A canned ham that has been cooked to an internal temperature of 250°F and can be stored without refrigeration

ham, old-fashioned A mild-flavored boneless ham that has been placed in netting and baked

ham, Parma A prosciutto ham that has been dry-cured, flattened, and aged (400 days)

ham, parsleyed Pieces of cooked ham and parsley in a gelatin flavored with white wine, glazed with a jelly containing parsley

ham, pepper A lean, round, boneless ham that has been smoked, cooked, and rolled in a mixture of black pepper

ham, perishable A canned ham that has been cooked to an internal temperature of 150°F and should be stored under refrigeration; heat to 140°F for serving.

ham, Polish A boneless, round ham (covered with a layer of fat and skin) that is smoked and cooked in water

ham portion (ham ends) The shank or butt portion of a ham from which the center section has been removed

Hamprace See **Montana No. 1**

Hampshire (hog) A meat-type breed of hog that originated in Southern England, probably from the

Norfolk Thin Rind Hog; the hog is black with a 6-in. white belt that encircles the shoulders and includes the front legs.

See Part 2: Swine Breeds

Hampshire (sheep) A medium-wool, mutton-type breed of sheep originating in South-Central England from the Wiltshire and Berkshire Knot breeds; it has a dark brown to black face, with no horns, and a fleece grade of about $\frac{1}{4}$.

See Part 2: Sheep Breeds

ham, raw, jamon crude A semidry, uncooked, smoked, medium-seasoned, Uruguayan whole pork ham, bone-in or boneless

ham roll Ham used to prepare capocollo

ham, salad spread Composition: moisture 63%; protein 8.7%; fat 15.5%; carbohydrate 10.6%; ash 2.5%

ham sausage A moist, cooked, unsmoked Irish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into an artificial casing

ham, Scotch A dry-cured, aged, boneless ham with skin and fat removed; rolled and tied or stuffed into casings

ham, serrano A dry-cured, unsmoked ham similar to prosciutto

ham skipper An insect that feeds on stored meat and cheese; the adult is a two-winged fly ($\frac{1}{8}$ in. long); the larva (maggot) is yellow ($\frac{1}{3}$ in. long)

ham, Smithfield A long-shanked ham dry-cured in Smithfield, Virginia, with salt and then smoked and dried or aged; originally produced from peanut-fed hogs, but this is no longer required.

ham, South American A dry-cured ham that has a black exterior created by dipping in a black tar solution (to keep out the skipper fly) after processing and before drying

hamster A small rodent, *Cricetus cricetus*, used for experimental feeding tests

hamstringing Cutting the Achilles tendon

ham-style bologna Bologna that contains cubes of lean cured pork

ham, turkey A boneless, cured, turkey thigh

ham, Tyrolian, with fine herbs A bottom round of pork leg, with skin and fat, that has been salted, pressed, seasoned with dry herbs from the Alps, smoked, and dried for 6 months

ham, Virginia A dry-cured ham that has not been produced in Smithfield, Virginia See **ham, Smithfield**

ham, water-added A ham with up to 10% gain in weight, due to retention of cure

ham, Westphalian A ham that has been cured, cold-smoked over juniper, and dried; it is thinly sliced when served.

hamworst 1) A moist, cooked, smoked Dutch sausage made from fine- or coarse-chopped, medium-seasoned pork, with coarsely chopped meat, stuffed into beef or artificial casings. 2) A moist, cooked, unsmoked Australian sausage made from medium-chopped, mildly seasoned pork not stuffed into casings

hand 1) A unit of measurement [4 in. (10.16 cm), hand width], used to measure a horse's height at its shoulder. 2) A cluster of bananas on the original stem. 3) The foreleg or shoulder of a food animal. 4) The British term for the picnic area of pork

Handbook No. 8 A USDA publication that lists the composition of foods

hand cheese A sour cheese made from skimmed cow's milk and buttermilk, with a pungent odor and sharp flavor; it is molded by hand, thus the name.

handkäse A low-fat, high-protein, semisoft cheese that is hand-molded; the rind may be smooth or covered with bacterial or mold smears.

hand mating Breeding a specific sire to a specific dam

hand-to-mouth buying Buying over a short period of time to meet immediate requirements

hanging Ageing meat in a cool place to tenderize the meat and to increase the flavor

hanging tender (hanging tenderloin; hang tender) A pillar of the diaphragm muscle located close to the kidney; used as a by-product item; on the left, or "open," side of a beef carcass; usual weight 2–4 lb; length 1 ft

See Part 2: Beef Retail Yield; Beef Wholesale Cuts

hang tang A fish sauce

hank 1) A length of casing See also **sheep casing**. 2) Of cotton, 840 yd. 3) Of woollen yarn, 560 yd

hankara kanzo A type of fula

Hanas A variety of clingstone peaches

Hanus iodine number See **iodine value analysis**

Han-Yang A fat-tailed, polled, white-fleeced (carpet grade) breed of sheep; used for wool and mutton and found in Honan Province (northeastern China)

hao yu An oyster sauce

haploid Having a single set of chromosomes

hapt- A prefix used to indicate touching or seizing

haptule A Sri Lankan tea

Harbin White A white, prick-eared pig found in Hainan Kiang Province, China, produced by crossing Yorkshires with native stock

hard 1) A subjective term used to describe the maturity or ripeness of fruit that will not give when pressed; sometimes called mature green. 2) Describes wine with an excess of tannin

hard butter A processed fat, with a high solid-fat index, that is brittle at room temperature and has a narrow melting range; used in confections

hard candy Three or four $\frac{3}{4}$ -in. diam. candy balls (1 oz) contain 110 calories.

hard cider Alcoholic, fermented apple juice See **cider**

hard coal Anthracite

hard cracker See **hard tack**

hard-cured Describes fish that have been dry-salted and dried to a moisture content of 40% or less

hard end (black end) A physiological disorder of the pear; the fruit is hard, rounded, and often black on the blossom end

hard glass Glass that has a high melting point and a low coefficient of expansion and that will withstand thermal shock

hardhead See **croaker**

hardiness 1) The ability of plants to withstand low-temperature injury to woody tissue. 2) The ability of fruit buds to withstand cold injury

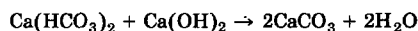
hardness A textural property related to the force required to deform a material; the resistance of a material to penetration by any of several types of needle-like instruments; the hardness of metals is measured with the Rockwell and Brinell testers; softer materials are measured with the Shore Durometer.

hardness of water A measure [in parts per million (ppm)] of the presence of bicarbonates, sulfates, chlorides, and silicates of calcium, magnesium, and iron in water that form insoluble precipitates with soap; a precipitation of the salts can be obtained by the following reactions:

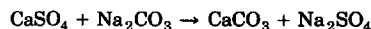
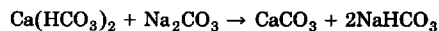
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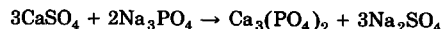
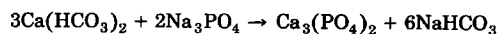
Lime:



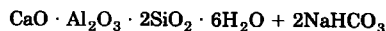
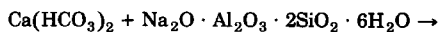
Washing soda:



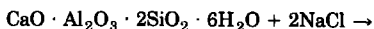
Phosphates:



Silicate:



Regeneration of silicate:



See Part 2: Water, Hardness

hard radiation Radiation of extremely short wavelength, including certain X-rays, gamma rays, and cosmic rays

hard rot A strawberry disease caused by a fungus (*Rhizoctonia* sp.) that attacks only ripe berries

Control: Proper spacing and correct timing of fertilizer applications are the most important preventive measures; fungicides are also helpful.

360 hard sauce

hard sauce An uncooked dessert sauce that is made from butter, sugar, and sometimes flavoring and is used on fruit dishes

hard-smoked Describes fish that have been given long periods of cold smoke until hard

hard tack (hard cracker; pilot's cracker; ship biscuit) A flat-shaped, low-moisture, crisp bread made from whole-meal grain; air is incorporated by whipping or by yeast fermentation; used for thickening stews *See cracker; ship biscuit*

hard-wheat flour Dough made from this flour has a "rubbery" consistency and thus can hold the carbon dioxide evolved from the leavening agent; it is thus a good bread flour.

hardwood Any dicotyledonous tree, usually broad-leaved and deciduous

See Part 2: Fuel, Heating Value

hare A large rodent with longer ears and legs than a rabbit *See rabbit*

See Part 2: Gestation Periods

hare's-ear mustard (*Conringia orientalis*) An annual weed

haricot 1) A dish of meat. 2) The dry seed of a string bean *See bean, dry*

haricot bean (*Phaseolus vulgaris*) A bean that is grown for its ripe seeds (brown or white), which are usually dried; dried seeds store well and are soaked in water before cooking; used to make boston baked beans and cassoulet

haricot of mutton A mutton stew with beans, onions, potatoes, and turnips

haricot vert Green string beans

harlequin *See neapolitan*

harm ha sauce (ham ha sauce) A pungent shrimp sauce that is sometimes used with pork

harracher A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

Harris hematoxylin Made by the following procedure: 1 g hematoxylin is dissolved in 10 ml absolute alcohol; add this to a warm solution of 20 g ammonia alum in 200 ml water; boil and add 0.5 g mercuric oxide; boil 1 min and cool rapidly under faucet; just before using, add 4% acetic acid; keeps well

harrow A toothed framework tool that may or may not have springs; used to break the soil; a disk harrow consists of circular, rotating knives attached to a mandrel and pulled by a tractor.

harsh 1) Lacking smoothness; rough; grating; astringent; coarse-textured. 2) Describes wine with an excess of tannin

hart *See stag*

hartkäse *See saanen*

hartshorn (buckthorn plantain; star of the earth) A plant whose young leaves are used raw in salads

hartshorn salt A raising agent, e.g., ammonia salt or carbonate

harvest index The ratio of grain weight to the total aboveground plant dry weight, e.g., if the grain weight

is one-half the total weight of the plant, then the harvest index is 0.5 and the grain-straw ratio is 1.

harze A hard, semicooked, port-salut-like, Belgian cheese made from cow's milk

harzer A low-fat, high-protein, semisoft cheese made from cow's milk

harzkäse A soft, sour-milk cheese

hasenpfeffer A rabbit dish containing vinegar, pepper, sour cream, and a number of seasonings

hash 1) A general term for many dishes that are mixtures of chopped meat and vegetables, thicker than soup; a dish made from cut meat in white or brown sauce; min. 35% meat. 2) Pan-fried vegetables, e.g., potatoes. 3) To cut or chop coarsely

Hashan pig A small breed of pig that is black with white markings and has small, erect ears; found on Hainian Island, southern China

hashi Chopsticks

haslama A cold herbal drink

haslet 1) A moist, cooked, unsmoked British sausage made from medium- or coarse-chopped, mild- or medium-seasoned pork not stuffed into a casing. 2) Edible organs (e.g., heart, liver, spleen) or a dish made from them

Hatch Act Passed in 1887; established State Agricultural Experiment Stations

hattenheimer A white wine

haudères A semihard cheese, made from cow's milk, with a full, fruity flavor

haugpølse A dry, uncooked, smoked Norwegian sausage made from finely chopped, heavily seasoned, beef, lamb, and horsemeat, with blood and plucks added; fermented and not stuffed into a casing

haugtussa farepølse A dry, uncooked, smoked Norwegian sausage made from medium-chopped, mildly seasoned beef, lamb, goat, and horsemeat, fermented and stuffed into an artificial casing

haunch The hindquarter; hindquarter of venison

haupia A pudding made from coconut milk and arrowroot

hauru kogu Shallow-fried cakes made from millet or sorghum flour

hauskäse A soft to semisoft, strong-flavored, small cheese made in homes, from cow's milk, and ripened by surface bacteria

hausmacher A moist, cooked, smoked Dutch sausage made from fine-, medium-, or coarse-chopped, heavily seasoned beef and pork stuffed into pork or artificial casings

haut A sweet wine

hauteluçe A cheese made from goat's milk

havarti A mildly acid to sharp, 8- to 11-lb cheese with holes; a semisoft cheese from Denmark that is sometimes flavored with caraway; a tilsit-type cheese

havarti cheese (Danish; tilsit) A hard to semisoft, open-textured, mild to sharp cheese used with fresh vegetables and in salads

haver Oats

havercake Oatcake

Haversian canals Blood-vessel-carrying canals in compact bone

haw The fruit of the hawthorn bush; 1-in. diam., egg-shaped, orange-brown, dry (some varieties are juicy), and mealy

Hawaiian See Part 2: Salad Dressing and Mayonnaise Variations

Hawaiian duck Duck roasted in orange sauce with pineapple pieces

haw, scarlet The fruit of any variety of crataegus shrubs

hawthorn A thorny shrub whose red berries are used for making desserts, jams, jellies, or wine

hay The aerial part of actively growing grass, clover, or herbage that is cut (mowed) and cured (dried, usually in the sun); it can be used as a mulch if it contains no seed; seed 8–15 lb/acre

Space requirements: loose 3.3–4.4 lb/ft³; baled, 6–15 lb/ft³; chopped 5–7 lb/ft³; should not be stored while damp

See Part 2: Nutrients in Crops

hay, baled Hay in blocks of approximately the following size:

1 bale = 14 × 18 × 36 in.

= 5.26 ft³

= 14.4 lb/ft³

= 60 lb

hay cheese A French cheese made from skimmed milk and ripened on hay

haylage Low-moisture (40–60%) forage that is cut and allowed to wilt in the field and then stored as silage

Hays Converter A strain of cattle developed in Canada from Brown Swiss, Hereford, and Holstein cattle

hazard analysis The identification of sensitive ingredients, critical process points, and human factors that can affect product safety

hazel (cob; *Corylus avellana*) A small tree that produces round nuts in clusters (1–4); the nuts are $\frac{3}{4}$ in. long, have a hard, brown shell, and are enclosed in a husk; they are similar to (sometimes smaller than) filberts and are often sold as filberts.

Kinds:

Oblong—filbertlike

Round—cobnutlike

Varieties:

Cob

Filbert

Kernels should be slightly baked before use in cakes and confectionery; also used as a forage crop for hogs

See **barcelona nut; filbert**

See Part 2: Minerals, Food; Protein Factors

hazel grouse See **hazel hen**

hazel hen (hazel grouse) A partridge-sized, Siberian game bird

hazelnut 1 cup = 4 oz

hazlet A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned pork stuffed into an artificial casing or not stuffed into a casing

Hb The symbol for hemoglobin

H band A light area in the center of the A band in muscle fiber

H broth Used for preparation of the “H” agglutination antigen for identification of the *Salmonella* group

See Part 2: Microorganism, Media

HDL High-density lipoprotein See **high-density lipoprotein**

He The symbol for the element helium

head 1) The close-packed, involuted leaves of certain vegetables (lettuce, cabbage, etc.). 2) The seed- or grain-bearing part of a plant. 3) The foremost part of animal; the cranium

See Part 2: Pork Cuts and Uses; Poultry, Dressing Percentage

headcheese (mock brawn) 1) Made from the head (jaws, eyes, and ears removed), jowl, heart, and tongue of a hog; these are cooked, ground, seasoned, placed in crocks to jell, and eaten cold; made with cured pork and spices; jellied with bits of pepper and pimento to add color; it is very similar to sulze or souze; a brawn. 2) A moist, cooked, unsmoked, jellied American sausage made from coarsely chopped to chunked, mildly seasoned pork (beef is sometimes used), with pork by-products and (pork or calf) head meat (extenders and gelatin also permitted), stuffed into an artificial link casing or available in loaves or canned. Composition: moisture 65%; protein 16%; fat 16%; carbohydrate 0.4%; ash 3%

See Part 2: Pork Cuts and Uses; Sausage Identification; Sausage, Nutritive Value; Sausage, Types

headcheese and sulze (souce; souze) A sausage product made from meat, snouts, and/or tongues of hogs, cattle, or sheep; contains added gelatin, salt, vinegar, sugar, spices, and sodium or potassium nitrate and nitrite; max. 40% gelatin in finished product

heading broccoli See **cauliflower**

head nematode A disease caused by an eelworm (*Anguina tritici*) or nematode that forms galls in place of kernels in wheat

head rice Unbroken milled rice

head smut See Part 2: Sorghum Diseases

headspace The distance between the top surface of food and the body flange of a container or the closure or top of the container; the unfilled portion of a container; the space is needed because food expands during canning and freezing.

Headspace needed for canned foods:

Corn (can, cooked)—1 in.

Fruit juice

Bottles— $\frac{1}{2}$ in.

Jars— $\frac{1}{4}$ in.

Fruits (can cooked)— $\frac{1}{2}$ in.

Peas (can, cooked) = 1 inch

Shelled beans (can, cooked) = 1 inch

Tomatoes (can cooked) = $\frac{1}{2}$ inch

362 headspace

Vegetables (can, cooked) = $\frac{1}{2}$ in.
Nonstarchy— $\frac{1}{2}$ in.
Starchy—1 in.

Type of pack	Headspace for container			
	Wide opening ¹		Narrow opening ²	
	Pint	Quart	Pint	Quart
Liquid pack (Fruit packed in juice, sugar, syrup, or water; crushed or pureed; juice ³)	$\frac{1}{2}$ in.	1 in.	$\frac{3}{4}$ in.	$1\frac{1}{2}$ in.
Dry pack ⁴ (Fruit or vegetable packed without added sugar or liquid)	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.

¹This is headspace for tall containers, either straight or slightly flared.

²Glass canning jars may be used for freezing most fruits and vegetables except those packed in water.

³Headspace for juice should be $1\frac{1}{2}$ in.

⁴Vegetables that pack loosely, such as broccoli and asparagus, require no headspace.

health food Usually applied to natural or organic-type foods; may be considered a misnomer

heart (cardiac muscle) The muscular structure that functions as a blood pump in the body; the fibers are branched, multinucleated, small in diameter, and contain intercalated discs.

Blood flows in the following order:

1. Extremities
2. Superior and inferior vena cava
3. Right auricle
4. Right ventricle
5. Pulmonary artery
6. Lungs
7. Pulmonary vein
8. Left auricle
9. Left ventricle
10. Aorta
11. Extremities

Animal hearts may be cooked and used for food:

Beef—the largest ($3\frac{1}{2}$ – $5\frac{1}{2}$ lb) and toughest
Veal
Pork
Lamb—the most tender

To prepare: wash in warm water; remove large blood vessels.

Composition: sodium 14–32 mg/oz

See Part 2: Beef Cuts and Uses; Calories, Daily Recommendations; Cholesterol Control; Gland Weights; Iron, Daily Recommendations; Lamb Cuts and Uses; Meat Composition; Meat, Servings Per Pound; Minerals, Food; Nicotinic Acid, Food; Organ Weights; Pork Cooking Yield; Pork Cuts and Uses; Poultry, Dressing Percentage; Meat, Servings Per Pound; Variety Meat, Cooking; Variety Meat, Percentage of Daily Recommended Allowances; Variety Meat Preparation; Veal Cuts and Uses; Vitamin A, Food

heartbeat Resting rate (beats per minute):

Horses—35–40
Oxen—40–60
Hogs—55–75
Sheep—60–80
Goats—60–80

heartburn A burning sensation in the esophagus 10–15 min after eating, caused by acid liquid rising from the stomach

heart infusion agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

heart rot (fruit rot) A pomegranate rot caused by *Aspergillus niger*, other *Aspergillus niger* and other *A. spp.*, and an *Alternaria sp.*; the fruit contains a mass of blackened arils and a threadlike, black line of decay from the calyx into the interior.

heartwood The darker, more decay-resistant wood in the center of a tree

heat 1) A period of sexual excitement in animals that occurs in cycles

Indications of heat:

Bellowing
Discharge of mucous
Drop in milk production
Nervousness
Riding or being ridden
Vulva red and swollen

See also **gestation period** (for the time intervals for various animals); **estrus**

2) To make warm; to make hot. 3) A form of energy

heat evolution The heat [in British thermal units (Btu) per unit weight per unit time] that is produced during the storage of fruit

See Part 2: Fruit Storage

heath cock (heath poult) A male black grouse

heath fruit A subdivision of berry-type fruits, e.g., blueberry, cranberry, and huckleberry

heath poult See **heath cock**

heat increment The energy used to consume, digest, and metabolize food

heating See Part 2: Fuel, Heating Value

heat-labile Unstable to heat

heat of fusion The heat required to change 1 g of a solid (e.g., ice to water at 0°C) to a liquid at the same temperature; for water, 80 calories

heat of vaporization The heat required to change 1 g of a liquid (e.g., water at 100°C) to steam at the same temperature; for water, 540 calories

heat transfer 1) The rate at which heat moves into and through a solid or liquid; it is of primary importance in cooking, baking, and canning. 2) The rate at which heat is conducted away from a mechanical system by a coolant

heat unit See **growing degree days**

heavy calfskin A calfskin weighing between 9 and 15 lb

heavy cowhide A cowhide weighing over 53 lb

heavy lap (thick lap) A container lap formed with excess solder

heavy metal A highly toxic, dense, metallic element, e.g., cadmium, lead, or mercury

heavy soil A soil that contains silt and clay, which make it dense and fine-textured

heavy steer hide A steer hide weighing more than 58 lb

heavy water Deuterium oxide (D_2O)

hechsher A mark placed on a food product to indicate that it has been prepared according to the Jewish dietary laws under the supervision of a meshgiach or a rabbi

hectare (ha) A measure of surface area

- 1 ha = 15,499,969 square inches (in.²)
- = 107,638.7 square feet (ft²)
- = 11,959.95 square yards (yd²)
- = 10,000 square meters (m²)
- = 2.47106 acres (A.; Brit.)
- = 2.47104 acres (A.; U.S.)
- = 0.01 square kilometer (km²)
- = 0.003861 square mile (statute)
- 0.404686 ha = 1 acre

hecto- The prefix for quantities 100 times larger than the base unit

hectogram (hg) A unit of metric weight

- 1 hg = 100 grams (g)
- = 10 dekagrams (dag)
- = 3.527 ounces (oz; avdp.)

hectoliter (hl) A unit of metric volume

- 1 hl = 100 liters (l)
- = 26.417 gallons (gal)
- = 10 dekaliters (dal)
- = 3.532 cubic feet (ft³)
- = 2.838 bushels (bu; U.S.)
- = 2 bushels (bu) + 3.35 pecks (pk)
- = 0.1 cubic meter (m³)

hectoliter per hectare (hl/ha)

- 1 hl/ha = 1.1484 bushels/acre (bu/acre)

hectometer (hm) A unit of metric length

- 1 hm = 100 meters (m)
- = 328 feet (ft) + 1 inch (in.)

hectowatt (hW) A measure of power, rate of energy, and heat

- 1 hW = 100 watts (W)

See **watt**

hed-fang Straw mushroom

hedge A futures market sale made against a physical purchase or a futures market purchase made against a physical sale, intended as a temporary substitute for the selling or buying of the physical commodity; any purchase or sale having as its purpose the elimination of the negative aspects of price fluctuations

hedgehog A quadruped that has spines and that may be used for food

hedge mustard See **cress, American**; **isiqwash-umbe**

hedging Taking a position in futures or options that is intended as a temporary offset against a position in the physical commodity See **hedge**

hedonic 1) Pertaining to pleasure. 2) A scale often used in evaluating food, describing a pleasant or un-

pleasant feeling or the degree of like or dislike

Example of a hedonic scale:

- 9—like extremely
- 8—like very much
- 7—like moderately
- 6—like slightly
- 5—neither like nor dislike
- 4—dislike slightly
- 3—dislike moderately
- 2—dislike very much
- 1—dislike extremely

hedonic scale A continuum used to rank the degree of like or dislike

heel The curved portion between the body sidewall and the bottom of a glass container

heel flies See **ox warbles**

heeling in Placing roots in a shallow trench and covering with moist peat moss, sawdust, or soil to prevent the roots of nursery stock from drying out prior to planting

heel-of-round A boneless roast made from the area to the rear of the stifle joint; the round muscles are considerably smaller in this area and, therefore, it contains a large amount of connective tissue. See **Pike's peak**

See Part 2: Beef, Boneless Cuts

heggebaerlikor A cherry brandy

Hei (Ningsia Black Sheep) A breed of black or dark brown, fat-tailed sheep used for pelts, wool, and mutton; obtained by crossing Karakul rams on Mongolian ewes; found in Ningsia (Ningxia), north-central China

heida A semihard cheese, made from cow's milk, with a full, fruity flavor

heidebrot A bread made from wheat and rye

heifer A bovine female that has not produced a calf. Desirable age at time of first breeding: Jersey 16 months; Guernsey 18 months; Ayrshire 19 months; Holstein 20 months

heiferette A young cow that has had one calf or is of this approximate age

Heifer-Oid A growth-promoting implant used on slaughter heifers

height See Part 2: Body Weight

heilitz-le-maurupt A spicy, riccio-type cheese matured in wood ashes

Heilungkiang A breed of prolific, black, lop-eared, razor-backed, large-bellied pigs raised in Heilungkiang Province, China

hektoen enteric agar See Part 2: Microorganism, Media

helene A dessert of ice cream, pears, and hot chocolate sauce

helianthin See **methyl orange**

helium (He) A gaseous element; at. no. 2; at. wt. 4.003; oxidation state 0; noble gas group of the Periodic Table; electron configuration 2 orbit K

- helva** A sweetmeat made from sesame, honey, and butter
- helzel** A dish made from stuffed neck skin of poultry
- hem-** A prefix used to indicate blood
- hemah** A type of butter or curd
- hematin (heme)** The nonprotein radicle that combines with globin to form hemoglobin; other respiratory pigments have similar structures.
- hematoma (haematoma)** A bruise, with resultant blood clotting and discoloration
- hematopoietic** Pertaining to the formation of blood cells
- hematoxylin** A blue stain ($C_{16}H_{14}O_6 + 3H_2O$) containing logwood dye *See also* **Harris hematoxylin; iron-hematoxylin solution**
- heme (haem)** An iron-porphyrin compound found in myoglobin or haemoglobin
- hemeralopia** The inability to see in bright light
- hemi-** A prefix used to indicate one-half
- hemicellulose** A carbohydrate of plants that is intermediate between cellulose and simple sugars; it is indigestible but may be hydrolyzed by bacteria.
- hemlock (*Tsuga canadensis*)** A coniferous tree having a toxic principle
See Part 2: Poisonous Plants
- hemlock oil (spruce oil)** A nonpoisonous hemlock oil that is used for flavoring
- hemmes 7-in medium** A medium used for the differentiation of *Shigella* and *Salmonella*-type organisms
See Part 2: Microorganism, Media
- hemoglobin (haemoglobin; Hb)** The oxygen-carrying red pigment of blood; a protein-iron complex found in red blood cells
See Part 2: Histochemical Tests; Blood
- Hemophilus** *See* Part 2: Microorganism, Media
- hemopoiesis** The process by which blood cells are formed
- hemorrhage (haemorrhage)** To bleed
- hemorrhagic septicemia** *See* shipping fever
- Hemosporidia** An order of microorganisms that are parasites in red blood cells
- hemostatic** Serving to arrest bleeding
- hemp (abaca; Manila hemp; *Musa textilis*)** A vegetable fiber that is composed primarily of cellulose and is used for cordage; the plant also produces an inedible fruit.
1 bu hempseed = 44 lb
- hemp, Mauritius (cabuya; *Furcraea gigantea*)** A plant fiber similar to sisal
- hempseed oil** A drying oil similar to linseed oil
See Part 2: Iodine and Saponification Values; Protein Factors; Seed, Chemical Composition; Titer, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids
- hemus** A salami made from beef and pork
- hen** 1) A baking chicken, fowl, or stewing chicken; a bird of this class is a mature female chicken (usually

more than 10 months of age), with meat that is less tender than that of a roaster (roasting chicken) and with an inflexible breastbone tip; cooked by stewing, steaming, or braising. 2) A female crab or lobster. 3) A pewter drinking pot

henequen (*Agave fourcroydes*) A plant used to produce coarse, strong, hard fibers *See* sisal

henry (H) A measure of inductance; 1 H will induce a counter-emf of 1 volt (V) when current changes at the rate of 1 ampere per second (A/s).

1 H = 1000 millihenries (mH)

henware *See* badderlock

heparin A complex carbohydrate acid that is an anticoagulant for blood; it is prepared (isolated) from liver and lungs

1 International Unit (IU; World Health Organization) = 1 USP unit

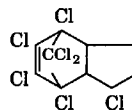
hepatic Pertaining to the liver

hepatitis Inflammation of the liver; a disease of the liver caused by a common, food-borne virus that is pathogenic to humans; possibly hazardous foods include raw shellfish, milk and dairy products and contaminated raw vegetables

See Part 2: Infectious Diseases, Food-Borne

hepta- A prefix used to indicate seven

heptachlor A poisonous, chlorinated hydrocarbon insecticide; use on food crops is prohibited.



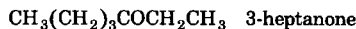
heptanal (heptaldehyde)



Used as a flavoring agent in food; sp. gr. 0.814–0.820

Storage: full, tight, glass container in a cool, dark place

heptanone (methyl amyl ketone)



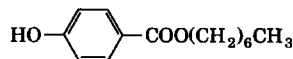
Used as a flavoring agent in food; sp. gr. 0.812–0.818

Storage: tight container

heptyl alcohol [$CH_3(CH_2)_6CH_2OH$] Used as a citruslike flavoring agent in food; sp. gr. 0.820–0.825

Storage: full, tight, glass container in a cool, dark place

heptylparaben



Used as an antimicrobial agent or preservative in food, including beverages, cake-type pastries, relishes, and salad dressings

Storage: tight container

herb A flowering plant whose stem does not become woody; a soft-stemmed plant whose seed, stems,

leaves, flowers, or roots are used for seasoning food; the term also refers to the leaves (used for seasoning) of aromatic annual, biennial, or perennial, soft-stemmed shrubs grown in the temperate zone. Herbs should be ground or rubbed between the palms before use. They belong to one of the following families: Boraginaceae (borage family); Compositae (aster family); Cruciferae (mustard family); Labitae (mint family); Liliaceae (lily family); Umbelliferae (parsley family). Maximum shelf-life of dried herbs is approximately 8 months.

$\frac{1}{4}$ – $\frac{1}{8}$ part dried herb = 1 part minced fresh herb

See Part 2: Herb Vinegars; Minerals (Trace), Limits; Salad Dressing and Mayonnaise Variations

herbaceous plant A plant that does not develop permanent woody tissue in the top

herbe royale See basil

herbicide A chemical used to kill plants; can be selective (e.g., weed killer) or general

Types:

Contact—causes rapid death of plant cell or tissue that it comes in contact with

Selective—will kill only certain plants at recommended rates

Translocated or systemic—must be transported from foliage or roots to the place of toxic action

See pesticide

See Part 2: Corn Herbicides

herbivore An animal that consumes or eats only plants, e.g., rabbits, cattle, sheep, elephants, many species of birds, some fishes, insects

herb liqueur An alcoholic beverage, with various degrees of sweetness, that is made by soaking herb extracts in a spirit base; may be consumed alone or diluted with water (may be only partially miscible, giving an opaque drink)

herb tea An all-encompassing term for a beverage made from portions of herbs or plants; plants often used are alfalfa, juniper, peppermint, and sage; parts of the plant that may be used are bark, flowers, roots, and seeds.

Manufacturing steps: the plant is dried; cleaned; finely cut; mixed to blend; packaged

Most herb teas do not contain caffeine; may be used for hot or iced tea.

Storage: in covered container for up to 6 months

herd's grass See redtop

Herdwick A hill breed of British sheep

Hereford (cattle) A breed of beef cattle that is red with a white face and underline and that has horns that curve outward and downward; originated in Hereford, England; originally imported to America by Henry Clay, Lexington, Kentucky. See also Double Standard Polled Hereford; Polled Hereford; Single Standard Polled Hereford

See Part 2: Beef and Dual-Purpose Cattle; Gestation Periods

Hereford (hogs) A breed of meat-type hogs that is red with white faces and underlines

See Part 2: Swine Breeds

Hereford-Aberdeen-Angus cross See Aberdeen-Angus-Hereford cross

Hereford, Polled A breed that developed through natural mutation of parent horned Herefords; the polled trait is dominant.

Herellea A coccoid bacteria, often occurring as a diplococcus, that has the ability to oxidize carbohydrate

See Part 2: Microorganism, Media

herkimer A smooth, aged, white, sharp, cheddar-type cheese that is dry and crumbly

hermaphrodite A flower having both male and female parts

hermaphroditic Having both sex organs in the same flower

hermetic Impervious to air or gases

hermetically In an airtight manner

hermetically sealed container A container that is capable of maintaining commercial sterility by inhibiting entry of microorganisms

hermit A cookie with nuts and raisins

herrgard Country-style

herrgardsost A hard, Swedish (or Swiss-type) cheese made from full or half-cream cow's milk

herring (kipper) Any of several similar species of pelagic food fish found in the North Atlantic, Baltic, and North Pacific, including sardines, shads, alewife, thread herring, etc. Some types are used fresh, salted and pickled, or salted and smoked; others are canned (e.g., in oil, with hot peppers in oil, in mustard sauce, in tomato sauce, in barbecue sauce, in hot sauce, spiced, or in brine); may be marinated with the following:

Allspice (whole)

Bay leaves

Black pepper (whole)

Cloves (whole)

Hot pepper

Lemon, onion, and spices

Mustard seed (whole)

White vinegar

Types:

Atlantic (*Clupea harengus harengus*)

Kipper herring—lightly salted, smoked, and canned in oil

Matjes herring—young, underdeveloped, fat herrings

Oceania (*Aldrichetta forsteri*)

Pacific (*C. harengus pallasii*)

Painted lady—salted and dyed

Red herring—heavy salted and smoked

The roe is also used. The fat content (%) of the fish varies greatly with the season of the year.

Composition (raw): moisture 69–79%; protein 17%; fat 2–11%; ash 1–2%

Composition (smoked): sodium 5234 mg/3 oz (85 g)

See also pelagic fish

See Part 2: Fish Cross Section; Fish, Smoke-Cured; Fish, Storage; Minerals, Food; Nicotinic Acid, Food; Riboflavin, Food; Thiamin, Food; Vitamin A, Fish; Vitamin A, Food; Vitamin D, Fish; Vitamin D, Food

herring, bismarck Herring in vinegar

366 herringbone score

herringbone score Weakening lines made at an angle to and between parallel scored lines in the body of a key-opened can

herring oil An edible fish oil obtained from herring
See Part 2: Fats and Oils, Physical and Chemical Properties; Fats and Oils, Characteristics; Iodine and Saponification Values; Unsaturated Fatty Acids

herring, pickled Herring (*Clupea harengus*) that have been pickled in acid, salt, and sugar and matured for months

herring tidbits Pickled herring

hertog van brabant A gouda-type cheese

hertz (Hz) The frequency (in cycles per second) of electromagnetic radiation

hervé A soft, strong-flavored, limburger-like Belgian cheese, made from cow's milk with rennet added, with a red-brown rind

hesperidium A subdivision of simple fruit; it has a fleshy ovary wall enclosing one or more seeds, attached to a fleshy placenta, and a leathery rind, e.g., citrus fruit

See Part 2: Fruit Classification

Hessian fly (*Mayetiola destructor*) An insect that damages the central shoot of small grains and whose maggots extract juices
 Control: sow late in fall

Hessische Bergstrasse A region in central Germany that produces wine for local consumption

hetero- A prefix used to indicate other; unlike, or dissimilar

heterocyclic A cyclic organic compound having one or more atoms of an element other than carbon in the ring, the other element usually being nitrogen

heterogeneous A mixture of two or more substances, whether or not they are uniformly dispersed; milk is a heterogeneous system, even when "homogenized." Heterogeneous systems can be separated by mechanical means. *See also* **homogeneous**

heterosis Hybrid vigor; having genetic characteristics that usually allow offspring to outperform parents

heterotroph An organism that requires complex organic compounds as a carbon source; organisms that obtain their energy by feeding on other organisms; this term includes animals and many microorganisms.

Hetianyang (Hotienyang) A breed of fat-tailed, hardy sheep, with white fleece (carpet grade) and black or variegated head and legs, that are used for pelts, wool, and mutton; found in Sinkiang (Xinjiang), northwestern China

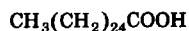
HETP (hexaethyl tetraphosphate) A poisonous organic phosphorus insecticide containing 10–20% tetraethyl pyrophosphate (TEPP)

heung kunn *See Chinese celery*

HEW The Department of Health, Education, and Welfare

hexa- A prefix used to indicate six

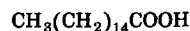
hexacosanoic acid (cerotic acid)



A saturated fatty acid occurring in beeswax, carnauba wax, etc.

See Part 2: Saturated Fatty Acids

hexadecanoic acid (palmitic acid)

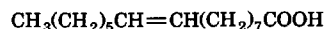


A saturated fatty acid occurring in natural fats and oils

See Part 2: Saturated Fatty Acids

hexadecatrienoic acid *See Part 2: Unsaturated Fatty Acids*

hexadecenoic acid (palmitoleic acid)



An unsaturated fatty acid found in many fats

See Part 2: Milk, Fatty Acids, Seasonal; Unsaturated Fatty Acids

hexadienoic acid *See sorbic acid*

hexametaphosphate A cleaning agent that has excellent calcium-sequestering power; magnesium lowers this sequestering power. It is unstable under high temperatures and high-alkaline conditions. *See also* **Calgon; phosphate**

See Part 2: Phosphate

hexanoic acid (caproic acid) [$\text{CH}_3(\text{CH}_2)_4\text{COOH}$] A saturated fatty acid in milk fat (2%); used as a sweet, cheeselike flavoring agent in food

Storage: tight container

See Part 2: Saturated Fatty Acids

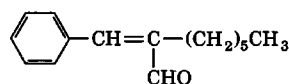
hexose A six-carbon sugar

See Part 2: Maple Syrup Composition

hexyl alcohol (1-hexanol) [$\text{CH}_3(\text{CH}_2)_4\text{CH}_2\text{OH}$] Used as a sweetlike flavoring agent in food; sp. gr. 0.816–0.822

Storage: tight container

hexylcinnamaldehyde



Used as a jasminelike flavoring agent in food; sp. gr. 0.952–0.960

Storage: in a full, tight (antioxidant-protected), glass container in a cool, dark place

Hf The symbol for the element hafnium

HFCS *See corn syrup, high-fructose; high-fructose corn syrup*

Hg The symbol for the element mercury (Latin, *hydrargyrum*)

hgb An abbreviation for hemoglobin

See Part 2: Blood

Hiangcheng A prolific breed of small black or large black and white pigs with a sway back, large belly, and small ears; from central China

hibachi A short-legged, cast-iron Oriental-type grill (4–20 in.) with adjustable damper and grate

hibiscus seed Seed that may be fermented in balls and used in soup and stews

hickory A hardwood that is excellent for use as firewood [28×10^6 Btu/cord (20% moisture)], is easy to start and easy to split, and produces light smoke, excellent coals, and few sparks

hickory nut (*Carya porcina*; *C. tomentosa*) A sweet, edible nut produced by a hardwood tree of the walnut family; the husk splits into four thick, hard valves when the fruit is ripe; the shell is flesh-colored or yellow; the nut is used in confectionery; the wood is used for smoking meat.

Varieties:

Shagbark (shag)—thin-shelled; white meat, good flavor

Shellbark

50 lb/bu

Composition: moisture 3%; protein 13%; fat 69%; carbohydrate 13%; ash 2%

See Part 2: Minerals, Food

hickory shuckworm An insect; the adult is an inconspicuous, dark moth; the larva is pale beige or grayish white with a brownish head, is up to $\frac{3}{8}$ in. long, and tunnels inside nuts and destroys kernels.

hide An animal pelt; the dermal layer plus hair; cattle hides weigh over 30 lb after curing, skins under 30 lb. Space required for cattle hide in pack is 1 ft³, on floor 40 ft²; salt used per cattle hide is 40 lb; time required to cure cattle hide 30 days; average shrink on curing 15%

See Part 2: Hide Curing; Hide, Layers; Hides, Salt Absorption

high-acid food See acid food

highball An alcoholic beverage, usually made with whiskey and served in a tall glass, e.g., to a glass with ice add the following:

1 jigger ($1\frac{1}{2}$ oz) liquor

Soda or water

Twist of lemon peel (optional) or the juice of $\frac{1}{4}$ lemon (optional)

Then stir. The term may also refer to a mixture of alcohol and diluent.

For example:

Brandy and water

Gin and soda water

Rum and cider

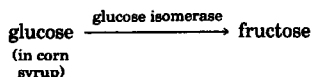
Vodka and aerated water

Whiskey and ice

high-density lipoprotein (HDL) Biochemical messengers that carry fat (mainly cholesterol) away from the arteries

high dose In food irradiation, doses of 10 kilogray (kGy) or 1 megarad (Mrad) or more

high-fructose corn syrup (HFCS) A solution containing dextrose and fructose (as high as 90%) made by the isomerization of the glucose in corn syrup to fructose:



It is sweeter than sucrose or invert sugar and can be used as a calorie-reducer. See corn syrup, high-fructose

Highland A small breed of very hardy beef cattle native to the high uplands of Scotland

See Part 2: Beef and Dual-Purpose Cattle

highly erodible cropland Land that is in use as cropland and is classified by the Soil Conservation Service as class IV, V, VI, VII, or VIII

highly significant See significance

high-lysine corn (Opaque-2) A variety of corn that is higher in lysine and tryptophan and has a better amino-acid balance than regular corn See corn, high-lysine

high-temperature short-time (HTST) A high-temperature short-time process for the pasteurization of liquids

hillesheimer A spreadable, lightly spiced, pork sausage (65% belly fat and 35% liver)

hill palm See palm

hill planting Spacing plants with enough distance between plants to permit cultivation in two directions

hilsa (*hilsah*; *Indian salmon*) A shadlike fish

hilt See gilt

hilum The point where a seed is joined to the seed case

hilus The opening in the capsule of an organ, through which the blood vessels and tubes pass

Himalayan Peak An herb liqueur

himbergeist A brandy distilled from fermented raspberries

himi A clear, mildly alcoholic, sorghum beer

hind foot See Part 2: Bone

hindquarter The rear portion of a beef carcass (less any or all of the tenderloin, shank, or flank steak) that is usually separated between the 12th and 13th ribs; it is approximately 48% of the side and contains the following wholesale cuts: round, rump, loin end, short loin, flank, kidney, and suet.

hindquarter meat Less any or all of tenderloin, shank, or flank steak and with no more than three of the following additional cuts removed: topside, silver-side, thick flank, rump, or strip loin

hinds See grouper

hindsaddle A wholesale cut of veal or lamb consisting of all behind the 12th rib; the two quarters are not split.

hind shank A cut of beef or lamb

See Part 2: Beef, Boneless Cuts; Beef Cuts; Beef Round, Bone Structure; Bone; Lamb Chart

hind shank bone An animal bone made up of tibia and fibula

Hindu An adherent of Hinduism; Hindus generally do not eat meat because they believe in the transmigration of souls.

hinge-cover container A container with its cover connected by a hinge

368 hinging

hingino A hard, dry, low-fat, cylindrical (2 kg) grating cheese made from cow's milk

hinny A hybrid animal produced by crossing a stallion with a jennet

hip 1) Haunch; the region of articulation of the femur (thighbone) with the pelvis; the lateral part (prominence) of pelvis.

See Part 2: Bone; Lamb, Wholesale Cuts; Meat Identification; Pork Wholesale Cuts; Veal Wholesale Cuts
2) The red fruit of the rose (*Rosa canina*); used for syrup or sauce

Types: dog rose; wild rose

hip bone See **ilium**

hip joint The femeropelvic joint; there is a strong central ligament attachment.

hip loin See **loin end**

hiragonic acid ($C_{16}H_{20}O_2$) A liquid, unsaturated (three double bonds) fatty acid found in sardine oil
See Part 2: Unsaturated Fatty Acids

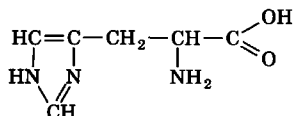
hircine Having a goatlike odor

hiroshimana Fermented Chinese cabbage (*Brassica pekinensis*)

hishio A flavorful paste made from soybeans, often mixed with cereals

his 'n' hers steak A steak cut from the chuck

histidine A nonessential amino acid that is essential for optimal growth of infants



See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

histochemistry The study of the composition of plant and animal tissues

See Part 2: Histochemical Test

histogram A graphical presentation of a frequency distribution table

histology A microscopic study of tissue

histone A simple protein that is strongly basic, coagulable by heat, and soluble in water, dilute acids, or alkalis, but insoluble in dilute ammonia

historical official method A method considered to be the best available at the time of initial acceptance and in continued use over an extended period of time

hives Various eruptive diseases of the skin that can be caused by food allergies

HLB value Hydrophile-lipophile balance

HMM Heavy meromyosin

Ho The symbol for the element holmium

hoary cress (*Cardaria draba*) A perennial weed

hobakh kimchi Acidic, carbonated vegetables

hobelkäse A very hard cheese made from cow's milk

hochheimer A white wine

hochstasser A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

hock 1) A large joint halfway down the hind leg of a horse; the tibia-tarsal joint. 2) Knuckle of pork. 3) Pork foreleg shank

See Part 2: Bone; Pork Carcass, Retail Yield; Pork Chart; Pork, Cooking; Pork Cooking Methods; Pork Cuts; Pork Yield; Veal Wholesale Cuts

4) A German wine from the Hochheim area, usually containing 10% alcohol by volume; it is made from the Riesling grape but sometimes Sylvaner and Traminer grapes are used.

Area	Wine quality	Vineyards
Nahe Valley	Dry, steely, clean	Bad Kreuznach Niederhausen Rüdesheim (Nahe) Schloss Bockelheim
Palatinate	Mild and mellow	Deidesheim Dürkheim Forst Neustadt Wachenheim
Rheingau	Light and dry to full and rich	Eltville Erbach Geisenheim Hallgarten Hattenheim Hochheim Johannisberg Kiedrich Martinsthal Oestrich Raenthal Rüdesheim (Rheingau) Winkel
Rhein Hesse	Lightweight, table to dessert	Nackenheim Nierstein Oppenheim

5) A white wine. 6) Rhine wine See **rhenish**; **Rhine wine**

hodgil Oatmeal dumplings for stews and soups

hoe cake Corn bread baked over an open fire

hoechst A mineral wax obtained by oxidizing montan (hydrocarbon extracted from lignites)

See Part 2: Wax

hoemetz Fermented grains, beans, and seeds

hog Swine of either sex, 120 lb or over in weight; average dressing percentage 70% (68–75%); average 57% excluding lard

Percentage of hog:

Carcass (68–75%)

Edible meat (56%)

Muscle (36%)

Intestines and offal (21%)

Fat in edible meat (20%)

Bone and fat (10%)

Head and feet (8%)

Gut contents (5%)

2) Sheep from weaning to first shearing. 3) In British usage, a male hog castrated at an early age *See* **hogget**
See Part 2: Cholesterol Control; Gland Weights; Swine Breeds; Swine Market Classes and Grades; Teeth Eruption

hogapple *See* **mayapple**

hog bung *See* **casing (hog bung)**

hog cholera A highly infectious viral disease of swine; immunization is available.

hog, clean 1) A male pig castrated at an early age. 2) A female pig before mating

hog dressed A lamb carcass with the head and pelt left on but with feet and viscera removed *See also* **hog style**

hogfish 1) *Lachnolaimus maximus*, a large saltwater fish. 2) *Scorpaena scorfa*, a large, spiny-headed saltwater fish

hogged wood fuel Wood particles (sawdust, wood shavings, and ground bark) produced by a mechanical shredder

hogget 1) A yearling male sheep that has never been shorn; has 1-2 permanent incisors. 2) A 1- to 2-year-old boar

hoisin sauce A sweet, spicy, thick, red-brown sauce made from soybeans

hoja A semisoft, mildly acidic, smooth cheese made from cow's milk and thinly rolled and folded into layers

hoja blanca A rice disease caused by a virus that is spread by a plant hopper (*Sogatodes oryzicola*)
 Control: Plant resistant varieties of stock.

holanda A Dutch-style cheese

holding tube The place where a product is sterilized in an aseptic canning system

Holland An American class of chickens that lays a light-colored egg
 Varieties: Barred; White

hollandaise A rich, yellow sauce made from butter and egg yolk

hollandaise sauce A rich sauce made from butter and egg yolk flavored with pepper and lemon juice; used on eggs, seafood, poultry, or vegetables
 Combination of ingredients sometimes used:

Butter ($\frac{1}{2}$ cup)
 Egg
 Egg yolk (3 egg yolks)
 Lemon juice (2 tbsp)
 Oil
 Salt (2 tsp)
 Tabasco sauce

Hollandaise sauce	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Dehydrated	5.0	13.7	9.3	62.4	0.2	9.5
Made with milk and butter	61.2	3.2	26.8	7.0	0.01	1.7
Dehydrated, with butterfat	2.1	11.0	46.0	32.1	0.1	8.7
Made with water	83.8	1.8	7.6	5.3	0.02	1.4

hog grades

U.S. No. 1—proper finish
 U.S. No. 2—excessive finish
 U.S. No. 3—overfinish
 U.S. No. 4—extremely overfinished
 Utility—underfinished and low quality

hognut *See* **pignut**

hogshead (British)

1 hogshead (Br.) = 10.114 cubic feet (ft³)

hogshead (hhd; U.S.) 1) A measure of tobacco; approximately 950 lb for burley. 2) A wine container; volume varies:

1 hhd (U.S.) = 238.48 liters (l)
 = 63 gallons (gal; U.S.)
 = 100-140 wine gallons (sometimes)
 = 60 gallons of brandy
 = 57 gallons of port
 = 54 gallons of cider
 = 52.5 Imperial gallons of wine
 = 46-48 gallons of claret
 = 8.42184 cubic feet (ft³)

hog style A method of dressing veal in which the skin is left on the carcass

hohenheim A German soft cheese

Holland gin *See* **Dutch gin**

hollandia An edam-type cheese

holly A tree or shrub whose berries may be made into a coffee-like drink or fermented; the shoots may be used as a cooked vegetable

holmium (Ho) A rare-earth metallic element; at. no. 67; at. wt. 164.94; Group IIIB of the Periodic Table; oxidation state +3;
 electron configuration 2-8-18-29-8-2
 orbit K L M N O P

Holstein *See* **holsteiner; Holstein-Friesian**

holstein bread A nutty-flavored whole-grain rye bread

holsteiner (holstein; horseshoe sausage) 1) A cheese made from skimmed milk. 2) A ring-shaped cervelat-type farmer sausage made from beef (sometimes beef and pork); a semidry, cooked or uncooked, smoked, cervelat- or farmer-style American sausage made from medium- to coarse-chopped, mildly seasoned meat that is fermented and stuffed into a ring-shaped, wide beef or artificial casing; also available in large-diameter links; usually smoked and air-

370 holsteiner (holstein; horseshoe sausage)

dried; the term also refers to a farmer sausage with the ends tied together.

Holstein-Friesian (black and white) A dairy-type breed of cattle that originated in the northern part of the Netherlands and is commonly called Holstein in North America and Friesian in other countries; color is black and white (areas clearly defined); it is becoming increasingly popular as a feedlot beef animal.

See Part 2: Dairy Cattle Breeds; Gestation Periods; Milk Breeds, Composition; Milk Composition

hom-dong Pickled stems of red onions (*Allium accalonicum*)

homeostasis A tendency to maintain the constancy of an internal environment

homeotherm A warm-blooded organism; an organism that either uses or gives off heat to maintain its body temperature

homestead protection A provision that permits a foreclosed borrower to remain in the principal residence on a farm even though the land is repossessed

hominy (corn grits) A cereal made from coarsely ground (grits are more finely ground), dried mature kernels of regular white or yellow field corn with the bran (or hull) and germ removed: The corn is soaked and slightly cooked (which increases its size); the hard outer covering (hull or chaff) and the germ are then removed. This yields a starchy vegetable product that is served hot.

Types:

Brine-pack—packed in weak brine; served as a vegetable

Canned

In brine

Jellied—sliced and fried

Flake—large white flakes

Granulated—ground form similar to white corn meal but coarser

Grits—coarse meal; broken grains

Lye (or hulled corn)—hulls are loosened by lye water (caustic soda); whole grain

Milk—cooked in milk

Pearl (coarse, samp)—large pieces; whole grain; hulls removed mechanically

Refrigerated

Solid-pack—usually sliced and fried

Equivalents:

1 cup, cooked = 8.6 oz

1 cup, raw = 6 oz

Composition (cooked): moisture 79–80%; protein 2.2%; fat 0.2%; total carbohydrate 17.8%; ash 0.5% pH 3.9 (lye hominy 6.8–8.0); sodium 502 mg/cooked cup

See also corn; corn grits

See Part 2: Cereal Composition; Grain Products, Composition; Minerals, Food

hominy bread A corn bread, served hot

hominy feed See grits, by-product

hominy grits (grits) A coarse meal made from maize

Sodium content (corn):

Regular—1 mg/cup (236 g)

Instant—354 mg/ $\frac{3}{4}$ cup (177 g)

homo- A prefixed used to indicate “the same”

homocyclic A ring compound in which all the atoms in the ring are the same element, e.g., benzene

homogeneity (as applied to a process) Variation in quality is attributable to chance causes only

homogeneous From the Latin words meaning “the same kind;” this often-misused term refers properly to substances that are of identical constitution throughout and that cannot be mechanically separated, i.e., chemical compounds. It is loosely used to mean mixtures that are uniformly dispersed in each other, but that can be separated by mechanical means. For example, copper sulfate and sucrose are homogeneous, but an alcohol–water solution is heterogeneous. See also compound; mixture

homogenized cream Cream that has been obtained from milk and then homogenized; it will not whip.

homogenized milk Milk in which the fat globules have been mechanically reduced to uniformly small particles; this is accomplished by forcing milk under pressure through a small aperture to reduce the fat to fine globules of approximately uniform size, so they will tend to form a stable emulsion or suspension; it is, however, a heterogeneous system. The fat globules are one-tenth their normal diameter and they adsorb a layer of milk protein. See also heterogeneous

See Part 2: Dairy Terms

homolky A soft, white cheese made from sheep’s milk

homologous series A series of organic compounds that differ only by a CH_2 group, e.g., methane, ethane, propane, etc.

honey A plant nectar that has been collected and modified by the honeybee (*Apis mellifera* and *A. dorsata*), producing a saccharine substance that contains primarily invert sugar [levulose (fructose) and dextrose (glucose), from sucrose hydrolyzed by an enzyme]

Market forms:

Section–comb honey—in the comb, as stored by the bees

Strained honey—extracted and strained

Crystallization or granulation can be removed by placing the container of honey in moderately hot water (max. 140°F). Flavor and color vary according to nectar collected from the plants; honey is not recommended as a food for infants less than 1 yr old because of the possibility of infant botulism.

1 cup = 330 g (11.7 oz)

Recipe substitutions:

1 cup sugar = $\frac{2}{3}$ – $\frac{3}{4}$ cup honey; reduce liquid by $\frac{1}{4}$ cup and baking temperature by 25°F

1 cup of honey = 1 cup molasses; omit baking soda and replace each $\frac{1}{4}$ tsp with 1 tsp baking powder
= $\frac{1}{2}$ cups sugar plus $\frac{1}{4}$ cup water

1 tbsp honey = 3 tsp sugar

One tablespoon contains 65 calories.

Composition: sucrose not more than 8% (normally 2%, range $\frac{1}{2}$ –8%); water not more than 25% (avg. 18%); ash not more than 0.25%; dextrin 0–10%; dextrose and levulose 65–80%

Composition (strained): moisture 17% (max. 18.6%); protein 0.3%; fat 0%; carbohydrate 82%; ash 0.2%; pH 3.9

Properties: sp. gr. 20/20°C 1.4225; viscosity ca. 70 poises; weight per gallon 11 lb 13 oz; calories 1380/lb; color, seven classes (but not a factor in grading)

Storage: Store in a dry place; if not, honey will absorb water and ferment; unopened, room temperature; opened, refrigerate.

See Part 2: Flavor Ingredients, Taste and Flavor Type; Honey Composition; Minerals, Food; Riboflavin, Food; Storage, Dry; Sugars and Sweeteners, Composition; Sugars and Syrups, Composition; Sweetness of Sweeteners; Sweetening Agents; Sweetening Compounds

honeyball A round melon, similar to a small honeydew, with a smooth to netted, white to yellow rind and green, sweet flesh

See Part 2: Fruit and Vegetable Diseases

honeyball melon A hybrid between a cantaloupe and a honeydew melon; it is oval with yellow, slightly netted skin and pink flesh; weight 2 lb

honeybee, Africanized (*Apis mellifera adansonii*) A hybrid bee with an aggressive stinging behavior; its sting is no more venomous than the domestic honeybee. Africanized bees swarm often and spread colonies quickly, often leaving a colony completely and moving to a new location (called absconding); they produce 50% more honey than European bees and are as effective at crop pollination.

honeyberry *See* mammoncillo

honey bread *See* carob pod

honey, chunk Pieces of comb honey with extracted honey poured over it

honey, comb (comb honey; section-comb honey) Honey as it comes from the beehive, in hexagonal waxy cells built by honeybees *See also* reticulum

honey, cut comb Comb honey cut into sections ($1\frac{1}{2} \times 4$ in.); the honey in the outer cells is allowed to drain prior to packaging

honey, crystallized Honey that has solidified due to the crystallization of some of the natural sugars; available as a solid mass or ground

honeydew *See* Part 2: Fruit Composition, Part I

honeydew melon A white winter muskmelon that is a blunt oval with smooth (sometimes netted) white to creamy yellow, thin rind, and pale greenish to white and sweet flesh; stem does not separate from melon; keeps well; avg. 7 lb and 6- to 8-in. diam.

1 crate = 60 lb

1 melon = 3.5-8 lb

1 med. melon = 6.5 cups, coarsely chopped

1 serving = 0.5 small melon

= $\frac{1}{4}$ - $\frac{1}{8}$ large melon

1 cup, diced = 5.9 oz

2 \times 7-in. wedge = 5.3 oz

Variety	Fruit	Flesh	Season
Earli-Dew	Oval-round, med. size; 5 in., 4-6 lb; pale green, smooth	Green, sweet, thick	75-90 days
Honey Dew Green	Broad oval; 7.5 \times 6 in., 5.5 lb; yellow-white rind	Green	115 days
Honey Drip Hybrid	Globe; 3 lb; white rind	Green-cream; high sugar	
Tam-Dew	Broad oval; 8 \times 6 in., 6 lb; hard rind; small seed cavity	Green	95-100 days

See Part 2: Fruit and Vegetable, Diseases; Fruit, Availability; Storage; Sugar, Vegetables; Transit Temperature; Vegetable Storage

honey, extracted Liquid honey that has been removed from the comb by centrifugal force

honey loaf A meat (pork, beef) loaf that contains a minimum of 5% honey

Composition: moisture 70%; protein 16%; fat 4.5%; carbohydrate 5.3%; ash 4%

See Part 2: Sausage Identification

honey locust A tree that is excellent for firewood 26×10^6 Btu/cord (20% moisture), medium-easy to start, and easy to split and that produces light smoke, excellent coals, and few sparks

honey-roll sausage A beef sausage that contains honey

Composition: moisture 65%; protein 18.6%; fat 10.5%; carbohydrate 2.2%; ash 4%

honeysuckle A flower frequented by honey bees; when eaten by cattle, it gives an off-flavor to milk.

honeyware (badderlock; *Alaria esculenta*) An edible seaweed *See* badderlock

honey, whipped A honey with a light, creamy texture, manufactured by whipping granulated honey

honey wine A sweet, fermented, alcoholic honey beverage, often flavored with fruit juice and spices

hon-fan Red sufu soybean curd that has been soaked in soy sauce with ang-kak

hongaarse mix A moist, cooked, unsmoked Dutch sausage made from coarsely chopped, medium-seasoned (with paprika) beef and veal stuffed into an artificial casing

hongo Teekvass

honing stone *See* novaculite

hoof The horny (keratin) terminal portion of the feet of horses and cattle

hoof-and-horn meal A slow-release nitrogen fertilizer

hoof-and-mouth disease *See* foot-and-mouth disease

hooks The points of the hips

hop (*Humulus lupulus*) A flower used in beer production; the plant is a perennial vine of the hemp family that is grown on a framework; resin glands at the base of the bracteoles produce lupulin and its essential oil and soft resins, which together flavor beer. The flowers are picked by hand, dried, and then baled and used in making beer, ale, and yeast; the shoots can be used as vegetables; the oil is used as a food flavoring.

Defect action level: avg. 2500 aphids/10 g

Storage: 28-32°F; 50-60% relative humidity; will keep several months

See Part 2: Flavoring Agents, Natural; Minerals (Trace), Limits; Wastes, Agricultural and Industrial

hop clover (*Trifolium agrarium*) An annual, early-spring-growing grass; used for pasture

hopfenkäse A cow's-milk cheese, often with caraway, that is matured between layers of hops

372 Hopkins-Cole test

Hopkins-Cole test A test for the tryptophan radical or the protein containing this radical; a purplish color is developed when this radical is treated with a magnesium glyoxylate reagent.

See Part 2: Protein and Amino Acids, Color Reactions

Hopkins, Gowland An Englishman who suggested that "accessory factors" are needed in the diet in addition to protein, carbohydrates, and fats

hops oil A volatile oil obtained by steam distillation of *Humulus lupulus* and used as an aromatic flavoring agent in food; sp. gr. 0.824–0.926

Storage: full, tight, glass container in a cool, dark place

hops, spent Can be used to supply bulk to soil and as a fertilizer

horehound (hoarhound) A weedy-looking, bitter-and aromatic-tasting, perennial herb that is used in candies, confections, lozenges, beverages or drinks, salads, sauces, food flavorings, and cough remedies; it can also be used for tea.

Types:

European black (*Ballota nigra*)

Water (gipsywort) (*Lycopus europaeus*)

White (*Marrubium vulgare*)

hormone Any of several organic substances secreted from the endocrine glands; they exercise specific control over the conduct, character, and development of the body. Examples are thyroxine, pituitrin, and adrenalin.

Sex hormones

	Male (androgens)	Female (estrogens)
Natural	Androsterone Testosterone	Estradiol Estrone Progesterone
Synthetic		Hexoestrol Stilbestrol

horn A keratin sheath and core projecting from the head of cattle, some sheep, and goats

horner Cream cheese

hornworm A insect that damages tomato plants
Control: carbaryl

hors d'oeuvres Colorful and attractive dishes used as appetizers; a French term for relish; an appetizer similar to canapes except that they may not be on a hard base

horse (*Equus caballus*) An herbivorous animal of the equine family; a male is called a stallion or a horse (less common), a castrated male is a gelding, and a female is a mare. The horse has a large cecum after the true stomach, rather than a rumen preceding the true stomach. Horsemeat is often used for food in some countries; the meat is slightly sweeter and the fat slightly more yellow than beef.

Age at puberty—12–30 months

Duration of estrus—120–168 h

Frequency of ovulation—22 days; breeding habits are very seasonal

Gestation period—336 days

Mature weight—200–2500 lb

Number of females served by one male—10–60

Number of sperm in semen— 200×10^6 /ml

Number of offspring—1 per gestation

Semen volume—75 ml/ejaculation

Time of ovulation—24–48 h before end of estrus

See Part 2: Bone; Gestation Periods; Liver; Milk, Mammals, Composition; Molds, Mycotoxins; Reproductive Cycle; Teeth Eruption

horse balm (*Collinsonia canadensis*) A perennial aromatic herb belonging to the mint family

horsebean See broad bean; jack bean

horsebrush A plant having a toxic principle

See Part 2: Poisonous Plants

horse-eye bean (*Mucuna sloanet*) A perennial climber whose dry seeds are used as a pulse in thickening soups

horse fat See Part 2: Iodine and Saponification Values; Melting Points, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils

horsefish See moonfish

horsefly (gadfly) Any of the flies of the family Tabanidae that suck the blood of animals

horse gram (*Macrotyloma uniflorum*) A legume that is grown for fodder and green manure; the dried seeds are used as a pulse and animal feed

horse mackerel A food fish

California—*Trachurus symmetricus*

Japan—*T. japonicus*

Oceania—called scad in Australia

horsemeat See Part 2: Meat and Meat Products, Composition

horse mule A male mule

horse nettle A plant having a toxic principle

See Part 2: Poisonous Plants

horsepower, metric (cheval vapeur; hp; 75 kg-m/s) A measure of power, rate of energy, and heat

1 hp (metric)

= 735.448 watts (W; 1 W = 10^7 erg/s)

= 542.475 foot-pounds per second (ft-lb/s)

= 75 kilogram-meters per second (kg-m/s)

= 0.98632 (U.S.) horsepower [1 hp (U.S.) = 550 ft-lb/s]

= 0.73545 kilowatt (kW)

= 0.69718 British thermal units per second (Btu/s)

= 0.17569 kilogram-calorie per second (kg-cal/s; thermal units per second)

horsepower, U.S. (hp; 550 ft-lb/s) A measure of power, rate of energy, and heat

1 hp (U.S.)

= 33,000 foot-pounds per minute (ft-lb/min)

= 2545.08 British thermal units (mean) per hour [Btu (mean)/h]

= 745.650 watts (W; 1 W = 10^7 erg/s)

= 550 foot-pounds per second (ft-lb/s)

= 76.0404 kilogram-meters per second (kg-m/s)

= 42.4176 British thermal units per minute (Btu/min)

= 10.688 kilogram-calorie (mean) per minute [kg-cal (mean)/min]

= 1.01387 metric horsepower [hp; 1 hp (metric) = 75 kg-m/s]

- = 0.74565 kilowatt (kW)
- = 0.70685 British thermal units per second (Btu/s)
- = 0.17812 kilogram-calorie per second (kg-cal/s; thermal unit)
- = 7.457×10^{-9} erg per second (erg/s)

horsepower, boiler

- 1 boiler horsepower
- = 33,520 British thermal units per hour (Btu/h)
- = 9.803 kilowatts (kW)

horsepower-hour metric (hp-h; 75 kg-m-h) A measure of heat, energy, and work

- 1 hp-h (metric)
- = 2,647,610 joules (J; $1 \text{ J} = 10^7 \text{ erg}$)
- = 1,952,910 foot-pounds (ft-lb)
- = 270,000 kilogram-meters (kg-m)
- = 2,509.83 British thermal units (Btu)
- = 632.467 kilogram-calorie (kg-cal; thermal unit)
- = 0.98632 U.S. horsepower-hour (hp-h)
- = 0.73545 kilowatt-hour (kW-h)

horsepower-hour, U.S. (hp-h) A measure of heat, energy, and work

- 1 hp-h (U.S.)
- = 2.6845×10^{13} ergs (erg)
- = 2,684,340 joules (J; $1 \text{ J} = 10^7 \text{ erg}$)
- = 1,980,000 foot-pounds (ft-lb)
- = 6.4119×10^5 gram-calories (g-cal)
- = 273,745 kilogram-meters (kg-m)
- = 2,544.65 British thermal units (Btu)
- = 641.240 kilogram-calorie (kg-cal; thermal unit)
- = 1.01387 metric horsepower-hours [hp-h; 1 hp-h (metric) = 75 kg-m-h]
- = 0.74565 kilowatt-hour (kW-h)

horseradish (*Armoracia rusticana*; *Cochlearia armoracia*; *Radicula armoracia lapathifolia*; *R. armoracia rusticana*) A hot, strong, sharp, pungent condiment made from the root (2×12 in.) of *Armoracia lapathifolia* or *A. rusticana*; may be dried and powdered; the pungent flavor is due to glucoside sinigrin; the sprouting roots are used as a salad vegetable and the leaves can be used as a green vegetable; an off-white sauce (pH 5.3) is made from the root by crushing or powdering it and mixing with cooking vinegar, milk, and seasoning.

Varieties:

- Maliner Kren—large; white
- New Bohemian—large; white

Storage (root): cleaned and washed; in plastic bag (relatively high humidity) in a cool (refrigerate, 32–40°F), dark place; may be left in ground to freeze
See Part 2: Flavoring Agents, Natural; Minerals, Food; Planting Density; Storage

horseradish-flavored sauce Made from arrowroot, corn oil, cornstarch, egg yolk, horseradish, salt, spices, sugar, tapioca, vinegar, water, and worcestershire sauce

horseradish, prepared Composition: sodium 198 mg/tbsp (18 g)

horseshoe sausage *See* holsteiner

horticultural maturity The stage of development when a plant or plant part possesses the prerequisites for utilization by consumers for a particular purpose

host The plant or animal on which a parasite lives

hot Describes wine with a peppery taste

hot break A failure of solder at hot temperatures

hotcake A pancake, often eaten with butter and maple syrup

hot-cross bun A bun that contains currants, candied citrus-fruit peel, sultans, and spices, particularly cinnamon; a cross shape is placed on the surface.

hot dog A frankfurter, usually served in a soft bun, often with garnish (ketchup, pickles or relish) and mustard; a moist, cooked, smoked British sausage made from fine- or medium-chopped, mild- or medium-seasoned beef, lamb, pork, veal, and goat that is stuffed into sheep or artificial casings or not stuffed into a casing

hot dog, Dutch A moist, cooked, smoked Dutch sausage made from finely chopped, medium-seasoned beef and pork stuffed into a sheep casing

hot dog, Swedish A moist, cooked, smoked Swedish sausage finely chopped, mildly seasoned (with potato starch, skimmed milk powder) beef and pork stuffed into a peelable artificial casing

hotel rack Unsplit rib from the forequarters of lamb, mutton, or veal *See* **rib rack**
See Part 2: Lamb Chart

hot-fill method A container is filled with product and sealed at 180–210°F and receives no further heat

hothouse lamb A 30- to 60-lb lamb (6–10 weeks old) dropped between Oct. and Jan. and sold between Christmas and Easter

Grades: Extra Fancy; Fancy; Good; Fair; Plain

Usually hog dressed; the pluck and liver are usually left in the carcass.

See Part 2: Sheep Market Classes and Grades

Hotienyang *See* Hetianyang

hot-pack method Food is heated in syrup, water, steam, or juice and packed hot into a container or canning jar

hot-salt cure A meat-curing procedure using salt-peter, sugar, and hot salt

hottentot (*Pachymetopon blochii*) A food fish

houdka A soft, white cheese made from sheep's milk; may be partially cured

household unit In a food consumption survey, the basic unit that consumes food taken from a common supply and usually cooks and consumes the food in common

hoven Describes cheese that is swollen due to gas formation

HPLC High-pressure liquid chromatography

hrams 1) Wild garlic. 2) A full-fat, garlic-flavored cheese; a creamy, full-fat, soft, unsalted cheese made from cow's milk and flavored with garlic

hrenovke A moist, cooked, smoked Yugoslavian sausage made from mildly seasoned beef and pork stuffed into 55–58-mm beef, sheep, or artificial casings or not stuffed into a casing

HRI Hotel, restaurant, institution

hrossabjugu A moist, uncooked, smoked Icelandic sausage made from coarsely chopped, mildly seasoned lamb and horsemeat stuffed into an artificial casing

h.s. At bedtime (Latin, *hora somni*)

H₂S test strip See Part 2: Microorganism, Media

HTST See high-temperature short-time

hua-chai po Pickled turnip

huang chiu A fortified alcoholic wine

huan tou A soy sauce

hubbard A globular or pear-shaped winter squash with yellow or orange flesh and yellow, green, blue-green, or orange skin that is hard and warted

hubbard squash A ridged, warted, lemon-shaped, thick-fleshed, winter squash with orange-red, blue-gray, or bronze-green skin See **squash, winter**

huchen (danube; *Salmo hucho*) A food fish

huckleberry (*Gaylussacia* spp.; *Myrtillus niger*)
A type of blueberry (with 10 seeds) that is large, insipid, and white or dark purple to black; it is an annual but often will reseed itself; the berry is used in pies and preserves.

Types:

Bear or buck (*G. ursina*)

Black (*G. baccata*)—often called huckleberry

Blue (*G. baccata*)—often called blueberry

Dwarf (*G. dumosa*)

Purple (*G. brachyrea*)

White or pink (*G. leucocarpa*)

Equivalents:

1 crate (24 qt), fresh = 12–18 qt, canned

= 32–36 pt, frozen

1 pt, frozen = 1.3–1.5 pt, fresh

See **bilberry; blueberry**

See Part 2: Fruit Classification; Fruit, Frozen Yield; Minerals, Food

huckleberry, canned In addition to huckleberries, the product may contain natural and artificial flavors.

Sucrose content of syrup:

Extra light < 15%

Light 15–20%

Heavy 20–25%

Extra heavy 25–35%

hudelziger A ricotta-type cheese made from cow's milk

hue A dimension of color related to the wavelength (e.g., redness, greenness)

huevos Eggs

huffed Describes cheese that is swollen due to gas formation

huffler A tea bread that contains no fruit

huinpo Germinated, dried grains of maize; used as malt for chicha

huitzle A white, alcoholic, viscous beverage made by fermentation of the century plant (*Agave*)

hulidan A fermented egg

hull (bran) 1) The outer covering or protective layer of a grain, seed, or berry. 2) To remove the husk See **glumes**

See Part 2: Corn Kernel; Rice Kernel

hulu mur A sorghum-based aliha beverage

humane slaughter 1) All animals are rendered insensible to pain by a single blow, gunshot, electrical,

chemical or other rapid, effective means before being shackled, hoisted, thrown, cast, or cut. 2) Loss of consciousness by anemia of the brain caused by simultaneous severance of the carotid arteries with a sharp instrument

human milk The whole, mature fluid produced by lactating women

Composition: moisture 87.5%; protein 1.0%; fat 4.4%; carbohydrate 6.9%; ash 0.2%

human nutrition The scientific discipline that is concerned with nutritional requirements, food composition, food consumption, food habits, the nutritive value of foods and diets, and the relationship between diet and health in humans

hum choy Chinese cabbage that has been pickled in rice-washing water

humectant A liquid that absorbs moisture from the air and thus maintains constant humidity in a closed container, e.g., glycerol and propylene glycol; used as a moisture conditioner or stabilizer and added to food to help retain moisture and maintains the desired level of moisture (e.g., shredded coconut). Hydration is usually related to the monosaccharide content (e.g., glycerin, propylene glycol, or sorbitol). See also **hygroscopic**

humerus The upper arm (or forelimb) bone, between the scapula and the ulna

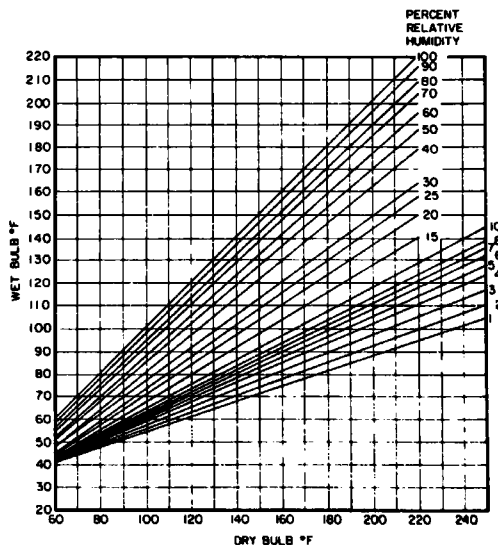
See Part 2: Bone

humidity The degree of moisture in the air or other gas

Absolute humidity—grains per cubic feet

Relative humidity—the percentage of moisture in a gas compared to a saturated (100% humidity) gas

See Part 2: Humidity, Solutions



Humlies An early Scotch breed of black polled cattle

humpback *See* salmon

See Part 2: Salmon and Trout

humpback salmon A pink salmon

humus Bacterially decomposed vegetable or animal matter in the soil

Hunan cattle A breed of yellow draft cattle with a prominent hump; originated in Hunan Province, south-central China

hundredweight (cwt) A measure of weight; the long hundredweight is used primarily in the United Kingdom and British territories.

In units of the long ton:

- 1 cwt (long) = 112 pounds (lb)
- = 50.8024 kilograms (kg)
- = 8 stone
- = 4 quarters
- = 0.050802 metric ton (long ton)

The short hundredweight is used primarily in Canada, Honduras, and the United States.

In units of the short ton:

- 1 cwt (short) = 100 pounds (lb; avoirdupois)
- = 45.36 kilograms (kg)
- = 0.05 ton (short)
- = 0.0453592 metric ton (long ton)

hundredweight (100 lb) per acre (cwt/acre) A measure of weight per unit of area

- 1 cwt (Brit.)/acre
- = 125.54 kilograms per hectare (kg/ha)
- 1 cwt (U.S.)/acre
- = 1.121 metric quintals per hectare (q/ha)

hundred-year-old egg (Ming-dynasty egg; thousand-year-old egg) A duck egg preserved in ashes, tea, lime, and salt and buried for months to cure; the white becomes dark green and the yolk, yellow-green

hungaras A moist, cooked, smoked Uruguayan sausage made from coarsely chopped, heavily seasoned beef and pork stuffed into a sheep casing

Hungarian food habits

- Animal products—eggs; fish; pork
- Carbohydrate—grain; potatoes
- Dairy products—sour cream
- Fruit—wide variety
- Seasoning—green and red pepper; onion; paprika
- Vegetables—sauerkraut

Hungarian pepper *See* paprika

Hungarian rizling A crisp, dry, white wine

Hungarian salami A dark red salami made from beef or beef and pork, with garlic, and aged 4–6 months; a dry, uncooked, smoked Australian sausage made from finely chopped, mildly seasoned (with garlic) beef, fermented and stuffed into artificial casings

Hungarian sausage A medium- to coarse-chopped, uncooked, smoked or unsmoked, American sausage that is fermented and/or dry or semidry and available in links, rings, or large-diameter casings

Hungarian-type salami A dry, uncooked, smoked or unsmoked Greek sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

hung beef Beef that has been aged (2–4 weeks in cooler) to improve tenderness and to develop flavor

hung ch'a Tea

hung chu A red (ang-kak), alcoholic beer

hunger 1) The complex of unpleasant sensations felt after being deprived of food. 2) A scarcity of food in a country. 3) The desire for food

hunter style *See* chasseur

huntsman A cheese made from layers of double Gloucester and stilton or blue cheese

huo chiu A rice-based arrack beverage

hura A type of fula

hurka A moist, cooked Australian sausage

husbandry The care of animals; livestock farming

hushalls-medvurst (hushalls-medwurst) A semidry, uncooked, smoked Swedish sausage made from medium-chopped, medium-seasoned beef, pork, and potato, fermented and stuffed into artificial casings; a cervelat made from beef and pork with potatoes

hushallsost A mild, sour Swedish cheese; a cylindrical Gouda-type cheese

husholdnings-poise 1) BS, a moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork stuffed into a beef casing. 2) NNS, a moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork, with large quantities of plucks added, and stuffed into artificial casings

hush puppies Deep-fat-fried cornmeal puffs made from a drop mixture of cornmeal, flour, baking powder, salt, garlic, milk, eggs, and onions; often served with fish

husk The inedible hull covering a grain kernel; the leaves covering an ear of corn; the outer covering of a seed; used especially of these coverings when dry and membranous *See* glumes; hull

husk tomato *See* gooseberry

huswa A sorghum-based alkali beverage

Hu-Yang (Wusih) A breed of polled, fat-tailed, very prolific sheep with white fleece (better carpet grade); used for pelts, wool, and mutton; found in Kiangsu and Chekiang provinces, China

hverdagsgrill A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork, not stuffed into a casing

hverdagspudding A moist, cooked, unsmoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork stuffed into artificial casings

hvid gjedeost cheese A Norwegian cheese made from goat's milk

HVF Hydrolyzed vegetable protein

Hwai A black, bacon-type pig from Kiangsu and Anhwei provinces, China

Hwangpei cattle A breed of yellow, cervicothoracic-humped draft cattle that originated in Hupeh (Hubei) province, central China

hyacinth *See* lablab

376 hyaline

hyaline Transparent; glassy

See Part 2: Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

hyaluronic acid A high-viscosity mucopolysaccharide that is found in many tissues and used to bind cells; mol. wt. 5×10^4 to 8×10^6

hybrid The offspring of a cross between different species, varieties, or genera

hybridization See **pollination**

hybridoma The fusion of an antibody-producing cell with a tumor cell; produced by injecting an antigen into a mouse to elicit an immune response and fusing the resulting antibody cells (B lymphocytes) with tumor cells growing in a tissue culture. The antibodies produced by hybridomas are monospecific (i.e., react with a specific region of the antigen).

hybrid vigor The tendency of crossbred offspring to perform better than the parents

hydantoin (glycolylurea) (NHCONHCOCH₂) A nitrogenous pharmaceutical intermediate

See Part 2: Sanitizers

hydatid A cyst enclosing the larva of a tapeworm

hydatid worm A food-borne parasite (*Echinococcus granulosus*) found in dog feces

hydnocarpic acid See **chaulmoogra oil**

hydr- A prefix used to indicate water

hydrate A crystalline product made up of salts and closely associated water molecules (water of crystallization), e.g., CuSO₄ · 5H₂O and CrCl₃ · 6H₂O; in some types of hydrates (e.g., hydrated lime) the water reacts chemically with a base to form a new compound.

hydrated lime (agricultural lime) [Ca(OH)₂] Builder's lime to which water has been added (slack), generating a great deal of heat; a liming material; each pound has the neutralizing equivalent of 1.2–1.35 lb CaCO₃ (or approximately this quantity of dolomitic limestone).

See Part 2: Fertilizer

hydration number The average relative amount of water carried by an ion of one element (or a group) compared to the amount carried by another; it varies with concentration; the higher the hydration number, the slower the ion moves.

hydrator (vegetable crisper) The section of a refrigerator that protects fruits and vegetables from excessive drying during storage

hydraulic load The number of gallons (or liters) of fluid flowing per day per square foot (or square meter) of filter surface area

hydraulic process (old process) A process that extracts oil from seed using a hydraulic press

hydride An inorganic compound of hydrogen and a metal in which hydrogen is negative

hydriodic acid A water solution of hydrogen iodide (a gas) used as a disinfectant

See Part 2: Concentration of Commercial Strengths of Acids and Bases

hydro- A prefix used to indicate water (e.g., hydrogen = water-maker)

hydrobromic acid A water solution of hydrogen bromide (a gas)

See Part 2: Concentration of Commercial Strengths of Acids and Bases

hydrocarbon A chemical compound that contains only carbon and hydrogen

hydrochloric acid (muriatic acid; spirits of salts) (HCl) A strong acid; an aqueous solution of hydrogen chloride (a gas); a strong irritant to tissue; an acid formed in the stomach and necessary for digestion; eq. wt. 36.5; mol. wt. 36.5

Commercial strength (°Be)	mol/l	g/l	Percentage by wt.	Specific gravity	Normality
7.0	2.9	105	10	1.05	
8.5			12.5	1.062	
18			27.9	1.1417	
20			31.5	1.16	
22.2	11.6	424	36	1.18	11.3
23			38	1.188	12.4

Milliliters of 35–37% HCl to dilute to 10 l	Approx. normality
8.9	0.01
17.8	0.02
89.0	0.10
445.0	0.50
890.0	1.00

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Hydrochloric Acid, Solution; Normal Solutions; pH, Standard Solutions; Reagents, Normal Solutions

hydrocolloid See **gum; hydrophilic colloid; protective colloid**

hydrocyanic acid (hydrogen cyanide; prussic acid) (HCN) A highly toxic liquid used as a fumigant and insecticide; found in bitter almonds, laurel leaves, and the stones of peaches, plums, etc.

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Fumigants; Normal Solutions

hydrodistillation Water distillation

hydrofluoric acid An aqueous solution of hydrogen fluoride; corrosive to tissue

See Part 2: Concentration of Commercial Strengths of Acids and Bases

hydrofluosilicic acid (fluosilicic acid) (H₂F₆Si) A fuming liquid; corrosive to tissue

See Part 2: Concentration of Commercial Strengths of Acids and Bases

hydrogen (H) A gaseous element; at. no. 1; at. wt. 1.0080; Group IA of the Periodic Table; oxidation states +1, –1; electron configuration 1 orbit K

A diatomic gas; the most abundant element in the universe

See Part 2: Constants, Fundamental

hydrogenated fat A fat that has been reacted chemically with hydrogen to stabilize or harden the fat by reducing the degree of unsaturation

hydrogenated oil See **hydrogenated fat**

hydrogenated shortening An oil to which hydrogen has been chemically added to convert it to a fat, e.g., Crisco.

1 cup = 190 g (6.6 oz)

1 lb = $2\frac{1}{3}$ cups

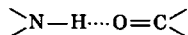
Storage: keep covered; below 70°F the shelf life is 1 yr.

See also **hydrogenation**

hydrogenation The saturation, or hardening, of unsaturated fats or oils by adding hydrogen to the double bond with the aid of heat, pressure, and a catalyst; this makes the product more plastic, firmer, improves the keeping quality (retards rancidity), and raises the melting and smoke points.

See Part 2: Margarine Production

hydrogen bond A weak bond formed when hydrogen is shared between two atoms, e.g.,



hydrogen cyanide A fumigant gas used with cereals and legumes See **hydrocyanic acid**

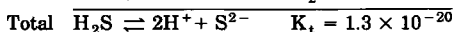
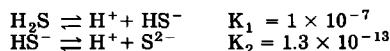
hydrogen ion (H^+) A positively charged ion with mass of 1; equivalent to a proton

hydrogen peroxide (H_2O_2) A toxic liquid used to remove color in tripe (must be rinsed off); also used as a preservative in milk (0.05% or less) in some areas; used in foods as a maturing and bleaching agent, a dough conditioner, an oxidizing agent, preservative, or starch modifier, or a bactericide

Storage: cool place with a stoppered vent

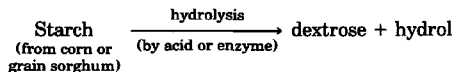
See **peroxide**

hydrogen sulfide (H_2S) A toxic, flammable gas with an offensive odor; a weak dibasic acid



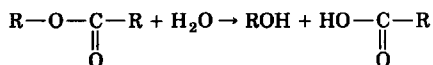
hydrogen swell Distortion of the end of a container because of hydrogen gas produced by a reaction between the product and the tinplate of the can

hydrol (starch molasses) A by-product of the conversion of starch to dextrose



hydrolase An enzyme that hydrolyzes a variety of compounds by water, e.g., lipase, peptidase

hydrolysis A chemical process of decomposition that involves the addition of water; often induced by the presence of an enzyme, dilute acid, or other chemical; a reaction of water with a complex organic compound in which both the water molecule and the organic molecule split, to form two simpler organic compounds, e.g.,



Thus, for example, proteins are hydrolyzed to amino acids.

See Part 2: Enzyme, Food Industry

hydrolyzed poultry feathers A product obtained from treatment under pressure of feathers from slaughtered poultry; crude protein must be 70% digestible protein See also **feather**

hydrolyzed vegetable protein (HVP) A protein (usually soybean) that has been reduced (usually with chemicals) to amino acids; used as a flavor enhancer

hydromel A mixture of honey, water, and seasoning

hygrometer An instrument for measuring relative humidity; a floating device used to determine the specific gravity of liquids

hydronium ion (H_3O^+) An H^+ ion attached to one water molecule

hydromorphic Soil with the ground-water table near the surface

hydrophilic colloid A macromolecular substance, such as a protein or polysaccharide, that swells by absorption of water, in some cases forming stiff gels; often an important textural component of food systems that provides water control by thickening and/or gelling See also **gel**; **gum**; **protective colloid**

hydrophobic Water-repellent; the opposite of hydrophilic

hydroponics (water culture) A system of growing plants with their roots in water or a liquid nutrient solution rather than soil; the plants are grown in light and without soil, by supplying nutrients to the roots by immersion or spray.

Nutrient solution often used (amounts of ingredients in level teaspoons):

Ammonium nitrate—5.5 tsp/50 gal water

Boric acid—pinch/50 gal water

Calcium sulfate—20 tsp/50 gal water

Copper sulfate—pinch/50 gal water

Iron sulfate—0.25 tsp/50 gal water

Magnesium sulfate—13.5 tsp/50 gal water

Manganese sulfate—pinch/50 gal water

Monocalcium phosphate—3.75 tsp/50 gal water

Potassium chloride—18 tsp/50 gal water

Sodium nitrate—16.25 tsp/50 gal water

Zinc sulfate—pinch/50 gal water

hydrostatic Relating to the pressure exerted by a liquid, e.g., a column of water

hydrostatic retort A constant-temperature retort in which pressure is maintained by a water leg through which the product is conveyed for the required processing time

hydroxide, amphoteric A hydroxide that is soluble in both acids and bases, e.g., the hydroxides of aluminum, chromium, and zinc

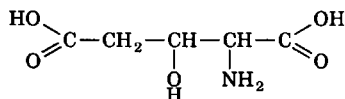
hydroxide ion (hydroxyl ion) [OH^-] A radical formed by dissociation of a hydroxide compound in water solution See also **hydroxyl group**

378 β -hydroxyalanine

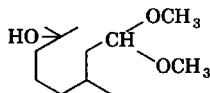
β -hydroxyalanine *See serine*

β -hydroxy- α -amino-butyric acid *See threonine*

hydroxyglutamic acid A monoamino-dicarboxylic amino acid



hydroxycitronellal dimethyl acetal



Used as a floral-like flavoring agent in food; sp. gr. 0.925–0.931

Storage: full, tight, glass container in a cool, dark place

hydroxylate To replace hydrogen in a compound with a hydroxyl group

hydroxylated lecithin Used as a clouding agent or emulsifier in food

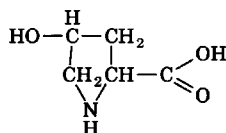
Storage: well-closed container

hydroxyl group ($-\text{OH}$) An uncharged combination of atoms that remains unchanged in chemical reactions *See also hydroxide ion*

4-hydroxymethyl-2,6-tert-butylphenone *See Part 2: Antioxidant Structure*

p-hydroxyphenylalanine *See tyrosine*

hydroxyproline A heterocyclic amino acid that is a constituent of collagen; used as a test for connective tissue content



See Part 2: Amino Acids; Amino Acid, Solubilities; Manure Analysis

hydroxypropyl cellulose A nonionic, water-soluble cellulose that is an ether derivative; a hydrocolloid used in foods as a general-purpose stabilizer, an emulsifier, a film-former, a protective colloid, a stabilizer, a suspending agent, or a thickener

Storage: well-closed container

hydroxypropylmethyl cellulose Used as a general-purpose food stabilizer, emulsifier, or thickening agent

Storage: well-closed container

hydroxypropyl sodium carboxymethyl cellulose Used as a foam-stabilizer in beer

hygiene 1) The science of public health and prevention of disease. 2) Sanitary practices; cleanliness

hygro- A prefix denoting moisture

hygromycin B A drug used as a wormer

hygroscopic Descriptive of a liquid or solid material that picks up atmospheric water vapor and thus acts

as a drying agent, e.g., silica gel; propylene glycol is a hygroscopic liquid (humectant).

hygroscopicity The tendency of a substance to absorb or attract moisture from the air

hymin nga-pi A fermented, salty condiment made from shrimp paste

hyper- A prefix used to indicate above or over, e.g., hypersensitive

hyperchlorhydria The presence of excess hydrochloric acid in the stomach

hyperchylia The secretion of too much gastric juice

hyperlipemia An overabundance of lipids in the blood

hyperorexia Abnormal hunger

hyperosmia Extreme sensitivity to odors

hyperphagia Consuming large amounts of food

hyperplasia Growth by an abnormal increase in the number of cells

hypertension High blood pressure

hyperthyroidism Excessive thyroid activity, which increases basal metabolism

hypertonic Having a higher concentration of solute and a higher osmotic pressure

hypertrophy Excessive growth by an increase in the size of cells (rather than the number of cells)

hypervitaminosis An abnormal condition due to an excess of one or more vitamins

hypesthesia An impaired ability to perceive sensations

hypo Sodium thiosulfate

hypo- A prefix used to indicate under or beneath, e.g., hypodermic

hypoallergenic Devoid of irritating properties

hypocalcemia Low blood calcium level, resulting in convulsions (e.g., tetany, milk fever)

hypochlorhydria Deficiency (less than 0.14%) of hydrochloric acid in gastric juice

hypochlorite A combination of chlorine with sodium or calcium hydroxide to give desired available chlorine

hypochlorite ion ClO^-

hypocotyl The germ of a seed

hypoderm *See Part 2: Orange Structure*

hypodermis *See Part 2: Wheat Kernel Parts*

hypogeusia An impaired sense of taste

hypoglycemia A low concentration of blood sugar (glucose); the normal blood sugar level in humans is 0.07–0.10%.

hypomagnesemia Low blood magnesium level

hypophosphorous acid H_3PO_2

See Part 2: Concentration of Commercial Strengths of Acids and Bases

hypoproteinemia A decrease of protein in the blood because of reduced levels in the diet or because of disease

hyposmia An impaired sense of smell

hypostypic Astringent or stypic

hypotenuse The long side of a right triangle

$$(\text{hypotenuse})^2 = (\text{side})^2 + (\text{side})^2$$

hypotonic Having a lower concentration of solute and a lower osmotic pressure

hyson Chinese green tea

hyssop (*Hyssopus officinalis*) 1) A perennial, aromatic, mint-flavored herb used to season food, candy, and beverages; chopped leaves are used as a salad dressing or can be used to make a medicinal tea.

Dried flowers—used to flavor soup

Dried flower spikes—used as an expectorant

Green plant—used to flavor salads

2) Honey made from hyssop nectar. 3) A bitter-tasting herb used for tea

hysterectomy The removal of the uterus

I

I The symbol for the element iodine

I See **ampere; current**

-i A Latin suffix that indicates plural

IAEA International Atomic Energy Agency

IAFMM International Association of Fish Meal Manufacturers

I band Light band (isotropic) in muscle fibers

ibappo palm See **palm**

ibas A fruit, similar to a mango; the kernel is used to make dika or odika bread and the seed yields dika fat, which has a cocoalike flavor

Iberian moss See **carrageen**

ibex (*Capra ibex*) A wild mountain goat

ibid. *Ibidem*, in the same place

IBR Infectious bovine rhinotracheitis

IBRD See **World Bank**

icaco See **coca plum**

icaque See **coca plum**

ice 1) The solid state of water; sp. gr. 0.92; heat absorbed during melting 144 Btu/lb (80 cal/g)

1 ft³ = 56 lb

1 lb = 7 cubes

= 1 party serving

See Part 2: Ice, Vapor Pressure; Freezing Rate

2) A tart, light, fluffy, frozen dessert that contains no milk fat and usually contains fruit juice, water, sugar, and sometimes egg whites and/or a stabilizer such as gelatin See also **ice cream; sherbert**

Composition: moisture 67%; protein 0.4%; trace fat; carbohydrate 32%; ash trace

3) To cover with icing

iceberg lettuce A variety of head lettuce with firm, compact heads and light green leaves

1 med. head = 220 g

See also **lettuce**

ice cream A frozen dessert made from milk, cream, sugar (14–15%), stabilizer, flavoring, and often eggs; freezing point 12 to –5°C

Types:

American —made with custard but not as rich as French

French—rich in egg-yolk custard

Philadelphia—thick cream and no eggs

Function of ingredients:

Egg products—bind, stabilize, leaven, and thicken

Flavoring—adds flavor

Fruit and nuts—retard freezing

Gelatin (or marshmallow)—stabilizes

Milk products—adds body and prevents crystallization

Starch—stabilizes

Sugar—adds flavor and prevents crystallization

Equivalents:

15 lb milk = 1 gal ice cream

2½ gal bulk ice cream = 50 servings

1½ gal brick ice cream = 50 servings

1 gal = 4.5 lb

1 qt = 4 cups

= 6–8 servings

1 cup = 140 g (5 oz)

Freezer size (qt)	Ice (lb), making and ripening	Salt (cups)			
		Making		Ripening	
		Rock	Table	Rock	Table
2½	15	1½	1	1½	1
4	20	2½	1½	2½	1½
6	25	3½	2½	3½	2½

Composition	Ice cream			
	10% fat	12% fat	16% fat	French vanilla
Moisture (%)	60–63	62	58–63	59–60
Protein (%)	3.6–4.5	4	2.6–2.8	4–5
Fat (%)	10.6–10.8	12.5	16–16.1	13–14
Carbohydrate (%)	21–24	21	18–21.6	22–23
Fiber (%)	0	0	0	0
Ash (%)	1	0.8	0.5–0.8	1
Milk fat (% min.)	10			
Total milk solids (% min.)	20			

Food solids min. 1.6 lb/gal; cholesterol 27 mg/0.5 cup; sugar 5–6 tsp/0.5 cup; calcium 97 mg/0.5 cup; sodium 75–153 mg/cup (133–173 g)

1 cup regular ice cream (approx. 10% fat)

= 270 calories

1 cup rich ice cream (approx. 16% fat)

= 350 calories

To remove stain from cloth: scrape off excess; soak in cold water with enzyme product; wash in hot suds; use cleaning fluid if necessary.

Storage: –15°F; storage life several months

See **American ice cream; French ice cream; overrun; Philadelphia ice cream**

See Part 2: Calcium Equivalents for Milk; Calories, Daily Recommendations; Cholesterol Control; Creams, Butter, and Frozen Desserts; Dairy Products, Composition; Dairy Terms; Food, Composition;

Frozen Food Storage; Milk and Milk Products, Vitamin Content; Minerals (Trace), Limits; Portion Size; Stabilizers, Thickeners

ice cream cone 1 piece = 4–5 g

ice cream, French (frozen custard; New York ice cream; parfait) Ice cream to which enough eggs have been added to give a yellow color; often additional cream is also added; made by freezing while mixing cream, milk, sweeteners, stabilizers, and egg yolks; min. 10% milk fat; min. 20% total milk solids

ice cream, New York See **ice cream, French**

ice cream, Philadelphia Made from light cream that has been sweetened and flavored

ice-cream soda A beverage made from carbonated water or soft drink, a scoop of ice cream, and flavoring (which often gives the beverage its name)

ice cream, vanilla Regular (approx. 10% fat), hardened ice cream

Composition	Regular (10% fat)	Rich (18% fat)	French (soft-serve)
Moisture (%)	60.8	58.9	59.8
Protein (%)	3.6	2.8	4.1
Fat (%)	10.8	16.0	13.0
Carbohydrate (%)	23.8	21.6	22.1
Ash (%)	1.0	0.7	1.0

icefish (caplin) A small smelt See **caplin**

Iceland moss An edible lichen that is dried, ground, and made into bread

ice milk A frozen dessert made from milk, sugar, stabilizers, flavoring, and sometimes eggs

1 qt = 4 cups

1 cup = 185 g (6.6 oz)

Composition	Ice milk	Vanilla ice milk		
		Soft-serve	Hardened	Soft-serve
Moisture (%)	67	69–70	67–69	69.6
Protein (%)	4.8	4.6–4.7	3.9–4.8	4.6
Fat (%)	5.1	2.6	4.3–5.1	2.6
Carbohydrate (%)	22	21–22	22.1–22.5	21.9
Fiber (%)	0	0	0	0
Ash (%)	1.0	1.2	1.0–1.2	1.2

Milk fat 2–7%; total milk solids min. 11%; cholesterol 13 mg/0.5 cup

1 cup hardened ice milk = 185 calories

1 cup soft-serve ice milk = 225 calories

See Part 2: Calcium Equivalents for Milk; Calories, Daily Recommendations

ice tea

1 gal = 16 eight-oz servings

ichang A good black tea from China

icing A coating for cakes; made from sugar, milk, and flavoring

Types:

Butter—made from butter and confectioner's sugar

Fondant—a soft icing

Frosting—made from egg white and confectioner's sugar

Glace—made from confectioner's sugar, cream, and sugar

Royal—a hard, white icing

See **frosting**

See Part 2: Stabilizers, Thickeners

icing sugar Confectioner's sugar

ICMSF International Commission on Microbiological Specifications for Food

icterus Yellow epidermis; jaundice

id. *Idem*, the same

IDA See **World Bank**

Idaho potato See **Russett Burbank**

idarika Deep-fried spiced cakes or balls made from black gram or urd dal (*Phaseolus mungo*)

ideal flatbread A cracker, usually made without sugar

IDF See **International Dairy Federation**

idiazabal See **aralar**

idla A steamed rice cake made from fermented or unfermented dough

idli A steamed, acidic, white or yellow bread made from rice or legume flour

idose A water-soluble aldose syrup not fermented by yeast; isomeric with glucose

See Part 2: Sugar, D-Aldehyde

i.e. *Id est*, that is

IFAD International Fund for Agricultural Development

iflagum A tea bread

IFOP Chilean Institute for Fisheries Development

igado Organs

igba puru A fruit, used raw, in jelly, and as a fermented beverage

igny A tilsit-type cheese made from unpasteurized milk

igwelei A sorghum beer

IITA See **International Institute of Tropical Agriculture**

ikagage A millet or sorghum beer

ikan bilis Salted, dried whitebait or anchovies

ike-shoyu A squid (*Ommastrephes*) sauce with rice and koji

ilama See **annonaceous fruit; custard apple**

ilchester A cheese that is flavored with beer, port, or cider

ileum The distal, third portion (12 ft long) of the small intestine

ilha A cheddar-type cheese

ilha, queijo da Hard cheese made from cow's milk

iliac See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

iliacus A muscle of the hindquarter that runs across the inner face of the ilium

ilium A triangular portion of the pelvic (hip) bone that articulates with the spine and directs a shaft downward and to the rear; called hip bone, pin bone
See Part 2: Bone

illiez A semihard cheese, made from cow's milk, with a full, fruity flavor

illipe The fat of *Bassia latifolia* or *B. longifolia*, used in the chocolate industry
See Part 2: Iodine and Saponification Values; Refractive Indices, Fats and Oils

illness See Part 2: Bacterial Food-Borne Illnesses

imbalance In nutrition, a disproportion among essential nutrients in the diet that has pathological consequences

imbu A yellow, 1½-in., soft-fleshed, sweet fruit that is used fresh, as a dessert, and as a jelly

imidazole (glyoxaline) A nitrogenous organic compound that inhibits the action of histamine



β-imidazole-alanine See **histidine**

imitation The term may only be used when the food is nutritionally inferior to the imitated product

imitation food A food product that has been manufactured to appear and taste similar to a conventional food

imitation milk A product that contains fats and oils other than milk fat and that is mixed with food solids other than milk solids

immersion Dipping into; submersion in or being covered by a fluid

immobilization Being made incapable of movement

immune response In higher animals, the body's recognition and removal of foreign substances (antigens)

immunity Defense against infection

immunoglobulin The general class name of a body of antibody molecules with differing specificities but with some common structural features; an animal or chemically related protein with antibody activity

immunology (serology) The study of the antigen-antibody relationship

immunosuppression Lowering the activity of any of the host's defenses, especially those involving immunity; reduced functioning of any host defense

impact extrusion A method of shaping metal or malleable material that involves forcing the material to conform to the shape of a die, e.g., some cans are fabricated by impact extrusion

impaction Compaction

impastata A ricotta-type cheese made from cow's milk and used in baking

impedance A material property that resists the flow of current in a circuit; the combined effect of resistance, inductance, and capacitance

impériale A large bottle

1 imperiale

= 8 bottles or 6 liters (after decanting)

= 8.5 bottles

implant A substance that is inserted into the body tissue

implantation The attachment of embryos to uterine wall

imports The goods, services, and products that a country buys from other countries

imprinting The rapid and sometimes permanent learning that occurs during the first days after birth

impurity A foreign substance; extraneous material

In The symbol for the element indium

inbreeding The mating of very closely related animals

in brine Solid portions of food packed in a salt solution or in water

incanestrato See **majocchino**

incannestrata A sharp wine or dinner cheese; also a grating cheese

INCAP Instituto de Nutrición de Centro América y Panamá

inch A measure of length

1 in. (Brit.) = 2.539998 centimeters (cm)

1 in. (U.S.) = 2.5400 × 10⁸ angstroms (Å)

= 25400.0508 microns (μm)

= 1000 mils

= 72 points (printer's type)

= 25.4000508 millimeters (mm)

= 6 picas (printer's type)

= 2.54000508 centimeters (cm)

= 0.08333 foot (ft)

= 0.02778 yard (yd)

= 0.02540 meter (m)

= 0.005051 rod (rd)

= 0.00002540 kilometer (km)

= 0.0000157828 statute mile

= 0.00001371 U.S. nautical mile

39.37 in. = 1 m

12 in. = 1 ft

7.92 in. = 1 link

inch-column of mercury (Hg, sp. gr. = 13.59593) A measure of pressure

1 inch-column of mercury

= 345.3 kilograms per square meter (kg/m²)

= 70.7310 pounds per square foot (lb/ft²; psf)

= 25.4001 millimeters (column) of mercury (mm-Hg)

= 1.13299 feet (column) of water [ft-water; max. density at 4°C (39°F)]

= 0.49119 pound per square inch (lb/in.²; psi)

= 0.34534 meter (column) of water [m: water; max. density at 4°C (39°F)]

= 0.03453 kilogram per square centimeter (kg/cm²)

= 0.034 bar

= 0.03342 atmosphere [atm; standard (760 mm)]

inch-column of water (4°C) A measure of pressure
 1 inch-column of water
 = 5.2022 pounds per square foot (lb/ft²)
 = 2.4583×10^{-3} atmosphere (atm standard)
 = 0.57802 ounce per square inch (oz/in.²)
 = 0.074 inch of mercury at 0°C (in. Hg; 0°C)
 = 0.03613 pound per square inch (lb/in.²)
 = 0.00254 kilogram per square centimeter (kg/cm²)

incidence In epidemiology, the number of people in a given population becoming ill in a given period

incisor A front tooth; in humans there are four in each jaw.

inclusive tour The price includes meals, hotel, transportation, sight-seeing, etc.

incomplete block design A statistical design that permits evaluating more treatments than can be done at one time; it is a balanced design: The same number of treatments are evaluated each time and every pair of treatments occurs together the same number of times.

inconnu (*Stenodus leucichthys*) A food fish

incubate 1) To hatch eggs by keeping them warm with body heat or artificial heat

See Part 2: Egg Incubation Periods

2) To cause microorganisms to grow under favorable conditions

incubation Maintaining a sample at a specific temperature for a specific time to encourage microorganism growth

indemnity programs Payment to producers who sustain losses as a result of pesticides, nuclear radiation, fallout, residues, or toxic substances

index of refraction

index of refraction

$$= \frac{\text{angle of light ray in air}}{\text{angle of light ray in another medium}}$$

India fig See prickly pear

India gum See gum karaya

Indian buffalo milk Composition (whole, fluid): moisture 83.4%; protein 3.7%; fat 6.8%; carbohydrate 5.2%; ash 0.8%

Indian cattle See Brahman

Indian corn (*Zea mays*) See corn

Indian cress See nasturtium

Indian custard apple See custard apple

Indian fig (*Opuntia ficus-indica*) A warm-temperature, large, treelike cactus that produces a large, red or yellow, edible fruit whose spines can be irritating

Indian gum See gum ghatti

Indian lettuce See lettuce, Indian

Indian mackerel (*Rastrelliger kanagurta*) A food fish

Indian nut See pine kernel

Indian oat See wild rice

Indian pear See prickly pear

Indian pudding A dessert made with cornmeal, molasses, ginger, and cinnamon and served with ice cream

See Part 2: Cornstarch Pudding Variations

Indian rice See rice; wild rice

Indian Runner duck An egg-producing breed that originated in the East Indies and stands almost erect

Varieties:

Fawn and white—reddish orange feet and shanks

Penciled—reddish orange feet and shanks

White—reddish orange feet and shanks

Indian salmon (dara; *Polydactylus indicus*) See hilsa

Indian sorrel See masha

Indian spinach See basela

Indian tragacanth See gum karaya

Indian tree lettuce See lettuce, Indian tree

India Plantation A heavy-bodied, mountain-grown coffee, with an acidic bite and mild but rich flavor, from the state of Mysore (southwestern India)

indicator A substance that shows a physical change (usually color) when a reaction has taken place, without affecting the reaction; used in acid-base titrations; e.g., litmus, methylene blue, methyl orange

See Part 2: Indicators: pH and Acid-Base; pH, Buffer Solutions; pH, Universal Indicators

indicator organism A microorganism that is found only under certain conditions (often pollution) or in the absence of certain conditions

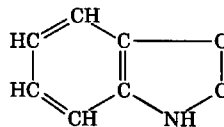
indigestion A digestive disturbance

indigo (C₁₆H₁₀N₂O₂) A blue coloring substance derived from a vegetable and used to color food

indium (In) A metallic element; at. no. 49; at. wt. 114.82; Group IIIA of the Periodic Table; oxidation state +3;

electron configuration 2-8-18-18-3
 orbit K L M N O

indole An indigo derivative that is also made synthetically; a carcinogenic agent



Has been used as a floral-like flavoring agent in food
 Storage: full, tight, amber glass container in a cool, dark place

See Part 2: Microorganism, Media

indrika Deep-fried cakes or balls of spiced field bean (*Phaseolus mungo*) or lablab bean (*Dolichos lablab*)

Indu Brazil See Part 2: Beef and Dual-Purpose Cattle

induced radioactivity Radioactivity resulting from exposure to radiation, which results in the production of unstable nuclei that give off radiation by spontaneous disintegration

induced tumor Neoplasm that arises after a carcinogen is applied

inductance The property of matter that resists change in a current passing through it; measured in henrys; this is the property of a conductor or an electric circuit that enables it to create a magnetic field.

inductor An electrical coil used to resist change in current

industrial alcohol A mixture of 95% ethyl alcohol and 5% water to which are added various chemicals to make the alcohol unfit for drinking; methyl alcohol is commonly used as a denaturant.

industrial feeding Providing food for the workers and staff of an industrial establishment

INE These letters on a red seal of an Italian wine indicate that the wine has passed laboratory tests for quality and purity

inedible Unwholesome; unsuitable for eating

inelastic demand A market in which a change in price will bring about a smaller proportional change in the amount purchased, for example, when consumers purchase the same amount of a product regardless of the price change

inelastic supply A market in which the increase in production is relatively less than the change in price

inert Without active properties

infant botulism The bacterial toxin is developed in the intestine, not in the food

infant food (baby food) Food designed for infants and younger children

infection Contamination with microorganisms or disease; the contagion or inflammation caused by bacteria or viruses

See Part 2: Illness From Food; Infectious Agents; Infectious Diseases, Food-Borne

infection food poisoning Viable bacteria present in food are the food-poisoning agents; they produce their toxins in the intestinal tract; e.g., *Arizona* spp., *Bacillus cereus*, *Clostridium perfringens*, *Salmonella* spp., and *Vibrio parahemolyticus*

infectious Describes a disease caused by microorganisms or submicroorganisms, e.g., bacteria, viruses, protozoans, fungi, and rickettsiae

infectious disease A disease that is caused by pathogenic bacteria, viruses, protozoa, or fungi and may or may not be contagious

inferior Beneath, below, or lower See **caudal**

inferno A dry, red Italian wine

infiltration Passing through; entering by penetration

inflammation The swelling, redness, and heat in a tissue caused by injury

inflorescence A flower or flower cluster

infra- A prefix used to indicate beneath, e.g., infrared

infrared Wavelengths of electromagnetic radiation longer than visible red, i.e., over 7500–8000 angstrom (Å)

infraspinatus A muscle of the chuck that is located laterally to the scapula and below the spine of the scapula

infuse To place herbs in liquid so that the liquid can be flavored

inga [guava (not a true guava)] A purple fruit with white pulp that is made into jam, jelly, and paste

ingest To take food into the body through the mouth

ingesta The food or drink taken into the stomach; the food present in the stomach or first compartment of the stomach; the contents of the digestive tract

ingestion Taking substances into the body, as into the stomach; taking any substance into the body by mouth

See Part 2: Ingestion and Inhalation

ingredient A part or constituent of food; any substance, including food additives, that is used in the manufacture or preparation of food; a component of a mixture See **statement of ingredients**

inguinal Located in the groin

See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

inhalation Taking air into the lungs by breathing

See Part 2: Ingestion and Inhalation

inhibit To hinder; to restrain

initial temperature The average temperature of the contents of the coldest container at the beginning of the sterilization cycle

initiation The irreversible and heritable transformation of normal cells into dormant tumor cells in a short period of time

injection Forcing fluid through a needle into the body or body parts

injera (enjera) A thin, soft, fermented bread that contains many gas holes; baked from teff (cereal)

ink (meat inspection) Coloring ingredients approved by the Food and Drug Administration; may also include other food-grade ingredients

Purple ink ingredients:

Alcohol

FD & C blue (Violet No. 1 has been discontinued)

Sugar

Water

Acetone—may be added to shorten drying time

Green ink (used for horsemeat) ingredients:

Dextrose (corn sugar)—3%

Edible shellac—2%

95% ethyl alcohol—75%

FD & C green—3½%

Water—16%

inkangaza Sweet, alcoholic beverage made from fermented honey flavored with banana pulp

ink blue agar See Part 2: Microorganism, Media

inkfish See **squid**

inkweed A plant having a toxic principle

See Part 2: Poisonous Plants

Inner Mongolia goat A brown goat breed that is raised for meat in Inner Mongolia and the Gobi

innmatpolse A moist, cooked, smoked Norwegian sausage made from finely chopped, medium-seasoned beef and pork, with plucks added, stuffed into beef casings

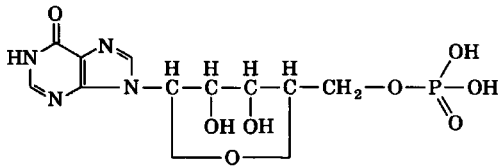
innominate bone See *ossa coxarum*

inoculated test pack A procedure by which a product is inoculated with bacterial spores to test a process under actual plant conditions

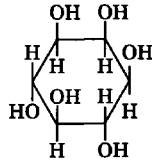
inoculation The introduction of foreign matter (usually microorganisms or other biological substances) into living cells

inorganic The branch of chemistry concerned with substances that do not contain carbon (except the carbon oxides and metallic carbonates); mineral ash

5-inosine monophosphate A flavor enhancer



inositol (dambrose; inosite; nucite; meat sugar)



A saccharide-type growth factor of the B-complex type that is found in organs, beans, peas, and wheat; used as a food nutrient or dietary supplement

Storage: well-closed container

See Part 2: Egg Products, Nutritive Value; Lemon Juice, Composition; Wheat, Vitamins

in-process inspection The purchaser inspects goods during the manufacturing cycle

input The items and materials used in production

insalivation The mixing of saliva with food

in season Indicates that a product is readily available in the fresh state

insect Any species of small, flying animals having six legs and usually two pairs of wings

See Part 2: Insect Control; Radiation Preservation

insecticide A chemical used to destroy insects either by contact or by internal poisoning; some types are toxic to humans and are ecologically damaging. See **pesticide**

See Part 2: Chemical Poisoning

insemination The placement of sperm in the reproductive tract of a female

insemination time The effective time for insemination, just prior to ovulation:

Cow—last half of heat period

Ewe—last day of heat period

Mare—last half of heat period

Sow—midpoint of heat period

insertion The movable (bone that moves) attachment of a muscle

inside chuck (bottom chuck) A muscle medial to the scapula of which the major ones are teres major, subscapularis, scalenus dorsalis, serratus ventralis, spinalis dorsi, complexus, longissimus dorsi, and longissimus costarum See also **bottom chuck**

See Part 2: Beef, Boneless Cuts

inside cut See Part 2: Beef Round Cuts; Meat Identification

inside round (top round) A beef cut made up of semimembranous, adductor, and gracilis muscles

See Part 2: Beef, Boneless Cuts

insipid Flat; tasteless; vapid

in situ In an undisturbed or normal position

INSP'D & P'S'D "Inspected and passed" (meat inspection)

See Part 2: Meat Inspection Stamp

inspection A close examination; checking against standards; examination by federal government personnel who determine whether the product is wholesome and fit for human consumption

See Part 2: Cheese Shield; Cottage Cheese Shield; Fruit Inspection Labels; Meat Inspection Stamp; Poultry Inspection and Grade Stamp; Poultry Inspection Stamp

inspection level The relative amount of inspection given a product

inspection lot A collection of items accepted or rejected as a whole on the basis of a sampling plan

inspection-lot size The number of items in an inspection lot See **inspection lot**

inspector A properly trained officer (may be an employee of the government or the company) who is responsible for inspection of products or premises

instantizing Undergoing a physical or chemical treatment (agglomeration) that will improve the water dispersibility of dry powders

institutional feeding The feeding of hospitals, orphanages, etc. where all meals are provided

institution package A package size that is larger than that found at retail level

insulation A material that resists penetration by heat or cold, e.g., air, glass wool, and felt

See Part 2: Insulating Value; Insulation; Insulation, Conductivity Values; Insulation, Thickness

insulin A hormone isolated from the pancreas and used to treat diabetes; controls sugar metabolism; it is a protein composed of 16 amino acids.

insulin shock A physiological shock due to low blood sugar level caused by high stimulation of glucose oxidation by insulin, e.g., by an overdose of insulin

insulte See Part 2: Insulation

integer A whole number

integration The combining of various steps in the production and marketing of a product under the control of a single firm See also **vertical integration**

intensity A quantitative attribute of a sensation; proportional to the intensity of the stimulus

interaction The extent to which one treatment level depends upon the level(s) of other treatments

intercostal Located between the ribs

See Part 2: Lymph Nodes, Ox

intercostal muscle Two layers of muscle between the ribs

interesterification A procedure for changing (randomizing) the arrangement of the fatty acids on the glycerin molecule; it gives more plastic range, better consistency, and higher solid content; dry heat, 110–200°F

interfacial tension The forces operating at the boundary between two insoluble liquids; an emulsifier reduces these forces.

interferon A nonspecific antiviral agent

interim status The status of a food additive that has been removed from GRAS list, with an interim food additive regulation established while the status of the product is being reviewed

intermuscular Between muscles

internal abdominal oblique The inside sheet of muscles of the flank whose fibers point downward and forward

internal cork A viral disease that produces yellow spots on the leaves of sweet potato plants and lesions on the roots, causing brown to black, hard, corky spots to grow on the tubers during storage

internal decline See endoxerosis

internal phase See dispersed phase

International Agricultural Development Service (IADS) Assists less-developed countries with agricultural development, with offices located at 1133 Avenue of the Americas, New York, N.Y. 10036

International Bank for Reconstruction and Development See World Bank

International Center for Tropical Agriculture (CIAT) Centro Internacional de Agricultura Tropical; its center (with offices at Apartado 67-13, Cali, Columbia) at Cali maintains a global collection of bean types.

international chick unit (ICU) A unit of vitamin D requirement for poultry, using the chick as an assay animal

International Crop Research Institute for the Semi-Arid Tropics Maintains a research station in Hyderabad, India

International Dairy Federation (IDF) An international group whose purpose was to standardize dairy products; it is now a part of FAO.

International Development Association See World Bank

International Food Policy Research Institute An agricultural research center located in Washington, D.C.; part of the Consultative Group for International Agricultural Research (CGIAR)

International Institute of Tropical Agriculture (IITA) Located in Ibadan, Nigeria

International Laboratory for Research on Animal Diseases (ILRAD) An agricultural research

center, located in Kenya, that focuses on research into theileriasis (East Coast fever), a tick-borne disease of cattle, and trypanosomiasis, which is carried by flies; part of the Consultative Group for International Agricultural Research (CGIAR)

International Rice Research Institute (IRRI)

Conducts a comprehensive rice research program, a worldwide testing system, and a training program; maintains an agricultural research center in Manila (PO Box 933), the Philippines; part of the Consultative Group for International Agricultural Research (CGIAR)

international trade barriers Regulations used by governments to restrict imports and exports

International Tropical Agricultural Center (CIAT) See International Center for Tropical Agriculture

International Union of Pure and Applied Chemistry (IUPAC) An international group that recommends nomenclature, standards for chemical weights and measures, symbols, etc.

international unit (IU; USP unit) A standard of potency as defined by the International Conference for Unification of Formulae; a measure of the biological value of a product based on comparison with an internationally recognized reference standard See individual vitamins

internode The portion of the plant stem between the nodes from which the leaves grow

See Part 2: Corn

interstem A part of the stem tissue that is grafted between the rootstock and a desired cultivar; the central portion of a twice-grafted tree, whose length determines some of the characteristics of the tree

interstitial cells The cells of the testicles that produce testosterone

intertransversales A muscle that connects adjacent transverse processes

intervertebral disc A disc of cartilage between vertebrae

intestinal fat See killing fat

intestinal juice A clear liquid secreted by cells of the small intestine; it contains lactase, maltase, sucrase, and several peptidases.

intestinal tract The large and small intestines

intestines The digestive tract from the stomach to the rectum

	Average length (in feet)	
	Small	Large
Cattle	120	30
Sheep	85	20
Swine	55	15

Human intestines secrete 2.5–3.5 l (2.7–3.7 qt) of digestive fluids per day.

See Part 2: Intestine, Cross Section; Organ Weights

in-the-money A call option is in-the-money when its strike price is below the current futures price level; a put option is in-the-money when its strike price is above the current futures price. An in-the-money option has more intrinsic value than it does time

value, because time value is also a reflection of the probability of success of the contract.

intoxication Literally, poisoning; the usual meaning is presence of alcohol in the brain, causing behavior characteristic of drunkenness; alcohol is a noncumulative poison.

See Part 2: Illness From Food; Microbial Toxins

intoxication food poisoning Occurs when the food-poisoning toxin is produced in the food by bacteria, e.g., by *Clostridium botulinum* and *Staphylococcus aureus*

intra- A prefix used to indicate within, e.g., intracellular

intramuscular Within a muscle

intraperitoneal Within the peritoneal cavity

intravenous Within a vein

intrinsic Situated or present exclusively in a part, e.g., an organ or a group of muscles

intrinsic factor A substance, secreted by the stomach, that is necessary for the absorption of vitamin B₁₂

intrinsic value The difference (in dollars) between the option strike price and the futures contract price

intro- A prefix used to indicate into or within

inulin [(C₆H₁₀O₅)₃₄] A sugar polysaccharide that yields primarily D-fructose and a little D-glucose on hydrolysis; a form of sugar that can be eaten by diabetics

Sources: many plants; some grasses; *Dahlia* tubers; *Helianthus tuberosus* (Jerusalem artichoke); artichokes

in vacuo In a vacuum or a space without air

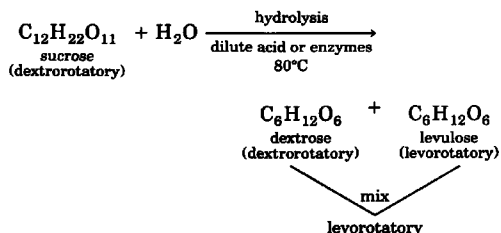
inversion The formation of equal amounts of glucose and fructose (a mixture called invert sugar) from the hydrolysis of sucrose

inversol See **invert sugar**

invertase (invertin; saccharase; sucrase) An enzyme that hydrolyzes sucrose to glucose and fructose
See Part 2: pH Values of Biological Materials

invertin See **invertase**

invert sugar (colorose; inversol; invert syrup; nulomoline) A 50-50 mixture of glucose (dextrose) and fructose (levulose), used primarily in the confectionery industry; it occurs naturally in honey and is formed by acid or enzyme hydrolysis (inversion) of sucrose:



Compared to sugar it is sweeter (30%), more soluble, and does not crystallize as easily; it is used to prolong

freshness and to prevent food shrinkage; it is a humectant and is sold only in liquid form. See **humectant**

See Part 2: Sweetening Agents; Sweetening Compounds

invert syrup See **invert sugar**

invitation for bids Solicitation of prospective suppliers for competitive price quotes

in vitro Literally, in glass; a reaction carried out in a test tube as opposed to one carried out in a living organism (*in vivo*)

in vivo In living matter; a reaction carried out in an organism rather than one carried out in a test tube (*in vitro*)

involuntary muscle See **smooth muscle**

inyu A soy sauce made from black soybeans

iodine (I) A halogen element; at. no. 53; at. wt. 126.91; Group VIIA of the Periodic Table; oxidation states +1, +5, +7, -1; electron configuration 2-8-18-18-7 orbit K L M N O

Iodine deficiency causes goiter (swelling of the thyroid gland).

Body function: essential to thyroid gland; in thyroxine. Iodine content in food varies, depending on its origin; found in seaweed, seafoods, and in some water supplies; used as an additive to salt to improve nutritional value, e.g., iodized table salt (0.01% potassium iodide); tincture of iodine (3% iodine in alcohol solution) is used as a disinfectant.

See Part 2: Cereal Fortification; Cereals, Vitamin and Mineral Content; Egg Products, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Normal Solutions; Recommended Dairy Dietary Allowance; Sanitizers; Sanitizing Chemicals

iodine number A value indicating the degree of unsaturation of a fat or oil: the larger the number, the greater the unsaturation; it is expressed as the percentage of iodine by weight that a fat or oil will absorb; oils range from 80 to 200.

Fat and iodine number:

Butter—22-45
Coconut oil—6-10
Corn oil—103-130
Cottonseed oil—104-114
Lard—46-70
Linseed oil—107-202
Peanut oil—84-100
Poultry fat—66-71
Soybean oil—120-141
Tallow—35-55

See also **iodine value analysis**

See Part 2: Fats and Oil, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids and Their Properties; Iodine and Saponification Values

iodine solution See **iodine**

See Part 2: Gram Stain

iodine value analysis (IV) The number of grams of iodine absorbed by 100 grams of fat; a measure of the unsaturation of a fat; it is determined by adding iodine monobromide to fat; the excess iodine is

388 iodine value analysis (IV)

titrated with standard sodium thiosulfate and calculated as percentage by weight of iodine absorbed and is reported as iodine number. Hydrogenation lowers the iodine value; fat stability increases as the iodine value decreases. *See also* **iodine number**

iodize To treat with iodine or with an iodide

iodized salt Table salt to which 0.01% sodium or potassium iodide has been added, as well as a small amount of magnesium carbonate for free flowing properties

iodoform (CHI₃) An antiseptic iodine compound

iodophor An antiseptic that is a combination of iodine with a wetting agent that (slowly) releases free iodine

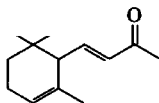
ion An atomic particle, atom, or chemical radical bearing a positive or negative electrical charge caused by an excess or deficiency of electrons (by the gain or loss of one or more electrons), e.g., H⁺, OH⁻

ion exchange A reversible chemical reaction between a solid and an aqueous solution that allows the interchange of ions, e.g., cation exchange (which may be used to remove calcium from water and to replace it with sodium)

ionization The process of adding electrons to or removing them from atoms or molecules, thus creating ions; the dissociation of a compound into positive and negative ions *See* **dissociation**

ionization constant *See* **dissociation constant**

ionone



Used as a woody, violet-like flavoring agent in food; sp. gr. 0.927–0.934 (alpha), 0.940–0.948 (beta)

Storage: full, tight, glass container in a cool, dark place

iota (I, ι) A greek letter, with an English equivalent of i

IOU I owe you

IQ Intelligence quotient

IQF Individually quick-frozen

iqt A sour, diluted milk

iqunaq Fermented, dried meat of eider duck (*Somateria* spp.)

Ir The symbol for the element iridium

Iranian white cheese A white, brined cheese

iraty An esbareich-type cheese that is matured for at least 3 months

iridium (Ir) A metallic element; at. no. 77; at. wt. 192.2; Group VIII of the Periodic Table; oxidation states +3, +4; electron configuration 2-8-18-32-15-2 orbit K L M N O P

iriko A small, dried fish

Irish food habits

Animal products—bacon; cod; haddock; herring; mutton; beef

Beverage—tea

Carbohydrate—oatmeal; potatoes; white bread

Dairy products—buttermilk

Fat—lard

Sweets—cakes; pies; sugar

Vegetables—cabbage; turnip

Irish Cobbler An all-purpose variety of potato

Irish coffee A whiskey-flavored coffee; for instance, it may be made as follows: Dissolve 2 tsp instant coffee and 1 tsp brown sugar in $\frac{3}{4}$ cup boiling water and add 1½ oz (3 tbs) whiskey; heat (do not boil); pour into a mug and top with whipped cream (sweetened to taste with brown sugar). Sip through the cream.

Irish mist A whiskey liqueur flavored with honey and herbs

Irish moss *See* **carrageen; carrageenan**

Irish potato *See* **potato, Irish**

Irish sea moss *See* **carrageen**

Irish stew A stew made from mutton, potatoes, onions, salt, and pepper

Irish stout A dark, heavy, alcoholic beverage fermented from barley

Irish whiskey Whiskey made by triple distillation of barley malt that has been kiln-dried over coal fires

iron (Fe) A metallic element; at. no. 26; at. wt. 55.85; Group VIII of the Periodic Table; oxidation states +2, +3; electron configuration 2-8-14-2 orbit K L M N

Body function: in hemoglobin, cytochrome, catalase, peroxidase

Used as a food additive or as a dietary supplement added to grain products to improve or maintain nutritional value; it is slightly soluble in food, especially in the presence of acid. Cast iron is used for cooking utensils and there seems to be no serious question concerning safety. In plants, deficiency causes lack of stamina and severe chlorosis (iron plays a role in chlorophyll formation), particularly in young plants, and often occurs in high-lime soil.

High in iron	Low in iron
Leafy green vegetables	Milk, egg white
Liver	White flour, fruits
Meat, fish, egg yolk	
Peas, beans	

See Part 2: Beans, Peas, and Nuts; Beef, Percentages of Daily Recommended Allowances; Cereal Enrichment; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish, Composition; Flour, Extraction Rates; Food, Composition; Fruit and Vegetables, Composition; Fruit Composition; Grain Anal-

ysis; Grain Products, Composition; Histochemical Tests; Iron; Iron, Daily Recommendations; Lamb, Percentages of Daily Recommended Allowances; Lemon Juice, Composition; Lime Juice, Composition; Macaroni and Noodles, Composition; Manure Analysis; Meat Composition; Meat, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Olives and Pickles, Composition; pH and Availability of Plant Nutrients; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Recommended Daily Dietary Allowance; Sausage Composition; Sausage, Nutritive Value; Soups, Composition; Sugars and Sweets, Composition; Sweet Potato, Nutritive Value; Tomato and Tomato Products, Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Water Drinking Standards; Wheat, Minerals; Wheat Products, Composition

iron ammonium citrate Used as a food additive and anticaking agent

iron, electrolytic Elemental iron obtained by electrodeposition and used as a nutrient or dietary supplement

Storage: well-closed container

iron-hematoxylin solution

Solution I:

Ammonioferric sulfate—2.5 g

Distilled water—100 ml

Solution II:

Hematoxylin—0.5 g

Dissolved in 10 ml 95% alcohol

Distilled water added—100 ml

iron oxide An additive used to color (red-brown) food

iron phosphate A waste product from the manufacture of steel

iron, reduced Elemental iron obtained by a chemical process and used as a food nutrient or a dietary supplement

Storage: well-closed container

iron sulfate Ferric sulfate [$\text{Fe}_2(\text{SO}_4)_3$] is used as a flocculant in water purification and as a soil conditioner.

See Part 2: Fertilizer Materials

Ferrous sulfate (FeSO_4) is added to animal feed.

Composition [heptahydrate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$): dry matter 98%; sulfur 12.1%; iron 21.4%

irradiate To apply radiation to a material

irradiation The process of applying radiation (waves or particles) to a product; treatment with or exposure to radiation

IRRI See International Rice Research Institute

irritant A process or substance that causes excitation

irsho A yellow fluid used as a starter for the fermentation of injera (a soft bread baked from teff)

iru A type of dawadawa

-is A Latin suffix used to indicate the singular

isard See izard

ischia Red and white Italian wines that are grown on the island of Ischia (southwestern Italy)

ischiatric Having a location near the ischium, or haunch

See Part 2: Lymph Nodes, Ox

ischium The posterior portion of the pelvic bone; joins the ilium at the cavity for the head of the femur; the aitch-bone area of the pelvis bone; called pin bone

See Part 2: Bone; Bone Age

iserband A farmer's sausage made from beef, pork and barley grain

ISF Inside solder fillet side seam

ishinagi A food fish caught in the Pacific

See Part 2: Vitamin D, Fish

isigny An American, Limburger-like cheese

isinglass A refined gelatin obtained from the collagen of the outer layer of the dried swim bladder of a fish (e.g., sturgeon) and used as an edible jelly, to preserve eggs, and for clarifying wine and beer

isiqwashumbe (hedge mustard) A wild mustard that is high in vitamin C

iskra A white, usually sweet, sparkling wine

islands of Langerhans The cells in the pancreas that secrete insulin

islay A firm-textured cheddar-type cheese

iso- A prefixed used to indicate "the same"

isoamyl acetate ($\text{CH}_3\text{COOC}_5\text{H}_{11}$) Used as a fruit-like flavoring agent in food; sp. gr. 0.868–0.878

Storage: full, tight, glass container in a cool, dark place

isoamyl butyrate



Used as a fruitlike flavoring agent in food; sp. gr. 0.860–0.865

Storage: full, tight, glass container in a cool, dark place

isoamyl formate [$\text{HCOO}(\text{CH}_2)_4\text{CH}_3$] Used as a plumlike flavoring agent in food; sp. gr. 0.878–0.886

Storage: full, tight, glass container in a cool, dark place

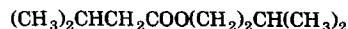
isoamyl hexanoate



Used as a fruitlike flavoring agent in food; sp. gr. 0.858–0.864

Storage: full, tight, glass container in a cool, dark place

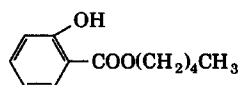
isoamyl isovalerate



Used as a fruitlike flavoring agent in food; sp. gr. 0.854–0.858

Storage: full, tight container in a cool, dark place

isoamyl salicylate

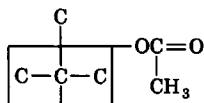


Used as a flavoring agent in food; sp. gr. 1.046–1.054
Storage: full, tight, glass container in a cool place

390 isoascorbic acid

isoascorbic acid See **ascorbic acid**

isobornyl acetate



Used as a woodlike flavoring agent in food; sp. gr. 0.980–0.984

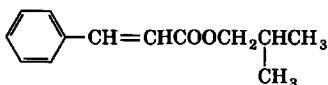
Storage: full, tight, glass container in a cool, dark place

isobutane $[(CH_3)_2CHCH_3]$ Liquefied petroleum gas
See Part 2: Refrigerant

isobutyl alcohol $[(CH_3)_2CHCH_2OH]$ Used as a vinous flavoring agent in food; sp. gr. 0.798–0.802

Storage: tight container

isobutyl cinnamate



Used as a fruitlike flavoring agent in food; sp. gr. 1.000–1.004

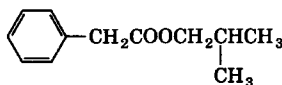
Storage: full, tight, glass container in a cool, dark place

isobutylene-isoprene copolymer (butyl rubber)

Used as a masticatory substance in chewing-gum base

Storage: well-closed container

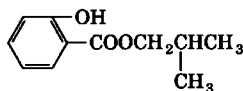
isobutyl phenylacetate



Used as a sweet, roselike flavoring agent in food; sp. gr. 0.984–0.989

Storage: full, tight, glass container in a cool, dark place

sobutyl salicylate



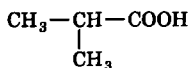
Used as an orchidlike flavoring agent in food; sp. gr. 1.062–1.067

Storage: full, tight, glass container in a cool, dark place

isobutyraldehyde $[(CH_3)_2CHCHO]$ Used as a sharp, pungent flavoring agent in food; sp. gr. 0.782–0.788

Storage: tight container

isobutyric acid



Used as a rancidlike flavoring agent in food; sp. gr. 0.944–0.948

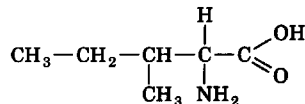
Storage: tight container in a cool, dark place

isocitric acid See Part 2: Organic Acids in Fruits and Vegetables

isodrin An isomer of aldrin; a toxic insecticide whose use may be restricted

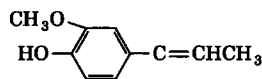
isoelectric point The pH at which the net charge is zero and there is no migration in an electric field; the point at which a substance dissociates equally as a base and as an acid; the pH of minimum solubility

isoleucine A monoamino-monocarboxylic amino acid



See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

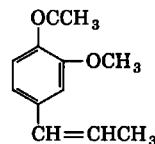
isoeugenol



Used as a floral-like flavoring agent in food; sp. gr. 1.078–1.086

Storage: full, tight, glass container in a cool, dark place

isoeugenyl acetate



Used as a clovelike flavoring agent in food

Storage: tight, light-resistant container

isohedonic Having the same degree of pleasantness (or unpleasantness)

isolabella A sweet, herb liqueur with sugar crystals

isolate Something obtained from a natural substance

isoleucine Used as a nutrient or dietary supplement
Storage: well-closed container

isomer A compound having the same percentage composition and molecular weight as another compound but differing in chemical or physical properties

isomerism The phenomenon of compounds having the same elements in the same proportions by weight but different structures and properties See also **cis-trans isomers**; **geometric isomers**; **optical isomers**; **stereoisomer**

isometric Tensing one set of muscles against another or against an immovable object, e.g., pushing against opposite sides of a doorjamb; increases muscle strength, particularly in arms and legs

isophorone A ketone that is a solvent for vinyl and phenolic resins

isopropyl acetate $[CH_3COOCH(CH_3)_2]$ Used as a flavoring agent in food; sp. gr. 0.866–0.870

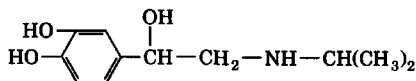
Storage: tight container

isopropyl alcohol ($\text{CH}_3\text{CHOHCH}_3$) Used as a food-extraction solvent

Storage: tight container, away from fire

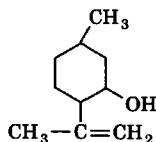
isopropyl citrate Used as an antioxidant in fats and oils

isoproterenol



A beta-agonist that is not orally active

isopulegol



Used as a flavoring agent in food; sp. gr. 0.904–0.914
Storage: full, tight, glass container in a cool, dark place

isotonic 1) Having the same osmotic pressure as another solution. 2) Producing body movements by muscle movement, e.g., in weight lifting or calisthenics; increases muscle strength and flexibility

isotope One of two or more forms of an element whose atomic weights differ by one or more mass units because of the presence of an abnormal number of neutrons in their nuclei; for example, ordinary hydrogen (H^1) contains no neutrons, but isotopic hydrogen (H^2 , deuterium) has one neutron. The properties of isotopes are identical except for atomic weight. A number of elements have no isotopes, but most have from two to eight or more.

isotropic Describes a material that has equivalent properties in all directions of test. *See also* **anisotropic**

isovaleric acid $[(\text{CH}_3)_2\text{CHCH}_2\text{COOH}]$ A saturated fatty acid occurring in tobacco, hop oil, and valerian; used as an acidic, rancidlike flavoring agent in food; sp. gr. 0.928–0.931

Storage: tight, light-resistant container

See Part 2: Fatty Acids

isterband A semidry, uncooked, smoked Swedish sausage made from coarsely chopped, medium-seasoned beef, pork, and barley grain fermented and stuffed into a pork casing

istle *See* **tampico fiber**

Italian food habits:

- Animal products—fish
- Beverage—coffee, wine
- Carbohydrate—dark bread; macaroni
- Dairy products—cheese
- Fat—lard; olive oil
- Fruit and vegetables—used in large quantities
- Seasoning—garlic, green pepper

Italian beef sausage A moist, uncooked, unsmoked American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel and/or anise) beef and beef fat only and stuffed into a pork or artificial casing

Italian cheese Refers to a number of different types of cheese, the shape usually determining the name; they are usually smoked and cured, with a tangy, salty flavor.

Italian dressing A salad dressing that usually contains garlic, lemon juice, oil, pepper, salt, spices, sugar, vinegar, and water
Sodium content: bottled 116 mg/tbsp (15 g); dry mix 172 mg/tbsp (14 g)

See Part 2: Fats and Oils, Composition I

Italian fennel A plant having anise-flavored green leaves, a blanched stalk, and a bulbous root

Italian paste Alimentary paste

Italian pear scale (*Epidiaspis leperii*) A pest of the pear; it produces honeydew on which a sooty fungus grows; the nymph is flattened, reddish purple, and often covered with honeydew.

Italian plum A variety of plum *See also* **ryegrass**

Italian roast (coffee) *See* **Espresso roast**

Italian salame A medium-flavored, dried, meat sausage that is not cooked and not smoked

Italian sausage May be prepared using fresh or frozen pork (if other species are used, it should be in the name) and pork fat (max. 35%); usually medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel, anise, and/or paprika), uncured (sometimes lightly cured), unsmoked (sometimes smoked), and uncooked; contains 85% meat or meat and fat (max. 35% fat) and max. 3% added water; it shall contain salt, pepper, and either fennel or anise, and it may contain other spices (including paprika) and flavoring, red and/or green onions, garlic, and parsley. It is commonly placed in an artificial casing but may be available in bulk, rope, linked in edible casings, or in a large-diameter link or ring casing; requires thorough cooking

Composition	Cooked	Raw
Moisture (%)	50	51
Protein (%)	20	14.2
Fat (%)	25.7	31.3
Carbohydrate (%)	1.5	0.6
Ash (%)	2.8	2.7

See Part 2: Sausage, Types

Italian sausage product An uncured, unsmoked sausage that contains min. 85% meat or meat and fat (max. 35% fat); it shall contain salt, pepper, and either fennel or anise.

Italian sausage with beef A moist, uncooked, unsmoked American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel and/or anise) beef and pork (mainly pork but with some beef) stuffed into pork or artificial casings; available in bulk, rope, or link form

Italian sausage with beef and veal A moist, uncooked, unsmoked American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel and/or anise) beef, pork, and veal stuffed into pork or artificial casings; available in bulk, rope or link form

392 Italian sausage with veal

Italian sausage with veal A moist, uncooked, unsmoked American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel and/or anise) pork and veal stuffed into artificial casings; available in bulk, rope, or link-form

Italian veal sausage A moist, uncooked, unsmoked American sausage made from medium- or coarse-chopped, mild-, medium-, or heavily seasoned (with fennel and/or anise) veal (veal and veal fat only) stuffed into pork or artificial casings

Italian vermouth Sweet and red vermouth

ita palm *See* palm

item A single member of an inspection lot

itimba Gray-white, dried balls of starter that contain bacteria, molds, and yeast on millet base; used as inoculum for sorghum beer

-itis A suffix used to indicate inflammation

itohiko natto *See* natto

IU International Unit (vitamins)

IUPAC *See* International Union of Pure and Applied Chemistry

IUTM base *See* Part 2: Microorganism, Media

ivybush *See* Part 2: Poisonous Plants

izard (chamois; isard; *Rupicapra rupicapra*) A goatlike antelope

izarra 1) A green armagnac brandy or herb liqueur with a high alcohol content. 2) A yellow armagnac brandy or herb liqueur with a lower alcohol content

izibo A plant whose tubers and fried seeds are used as food

jaboticaba (*Myrciaria cauliflora*) A subtropical, shrubby tree that produces a black, grape-like ($1\frac{1}{2}$ in. diameter) fruit with white or pink pulp; can be eaten fresh or made into jelly or wine

jaboty Fat or tallow from *Erismacalcaratum* and *E. uncinatum* used as a substitute for cocoa butter
See Part 2: Iodine and Saponification Values

jack 1) A male ass 2) A plant with fernlike leaves; usually considered undesirable 3) Saltwater fish (*Carangidae*)

jack bean (crickshaw lima; horse bean; *Canavalia ensiformis*) A tropical, long (12 in.), tender, podded bean that contains white seeds similar to small lima beans

Uses: as a snap bean; for green manure or fodder or both; whole young pod or mature seed can be cooked and eaten

jack-by-the-hedge See *alliarica*

jack cheese A light-colored cheddar

jackfish A pike or pickerel

jack fruit A tropical tree related to breadfruit that produces a large fruit (40–50 lb) with green skin and yellow pulp; pulp may be eaten raw or cooked in oil, boiled, or dried; seed may be roasted (like chestnuts), ground into meal, or made into a form of milk See breadfruit

See Part 2: Fruit Classification; Fruit Composition; Fruit Storage

jack fruit wine A wine fermented from ripe fruit of *Artocarpus heterophyllus*

jack mackerel

Atlantic (*Caranx hippos*)

Indian ocean (*C. sexfasciatus*)

Jack mackerel (*Trachurus trachurus*)

Japan (horse mackerel)

jack rail A switch and rail for transferring meat hangers to another rail

jacksmelt See *smelt*

Jackson A variety of soybean

Jackson candle unit (JCU) A measure of turbidity

Jacobs Pastry and crackers usually made without sugar

Jacopever (*Sebastichthys capensis*) A South Atlantic, food fish

Jaffa A variety of midsummer, Florida orange

Jagdwurst (*yachtwurst*) A cooked sausage made from a fine emulsion with cubes of lean meat; a cooked, smoked or unsmoked, American sausage made from fine to coarsely chopped meat; available in medium to large diameter links, rings, or large diameter casings for slicing; a moist, cooked, unsmoked

Irish sausage made from coarsely chopped, medium seasoned, beef and pork and stuffed into an artificial casing; a moist, cooked, smoked eastern German sausage made from fine or medium chopped, medium seasoned, beef and pork and stuffed into an artificial casing

jagermeister A dark, red digestive

jaggery (palm sugar) A thick brown sugar made from the sap of palms See *sugar cane*; *sugar palm*

jak See breadfruit

jalapeno pepper A very hot, cigar-shaped (smooth surface and a rounded tip and bottom) chile that is medium to dark green (when fresh) or red; 2–2½ in. long; 1 in. top diameter

Available fresh, canned, and pickled

jaloviina A brandy

jam A jelly of fruit (often berries) preserve; a jelled spread (generally less firm than jelly) made from crushed or ground fruit and containing whole, sliced, or crushed fruit, smaller than that contained in preserves; the original shape of fruit is not maintained; cooked until 90°F higher than the boiling point of water. Jelling is caused by reaction of acid (pH 2.5–3.5) with pectin ($\frac{1}{2}$ –1%) and sugar (opt. 67%); fruits cooked in sugar until soft and jellylike; made from crushed fruit, sugar ($\frac{1}{2}$ – $\frac{5}{8}$ part sugar to 1 part fruit), cooked and sealed for storage; pH 3.1–4.0

Classifications:

Pure grade—minimum 45 pounds fruit per 55 pounds sugar

Compounds—minimum 25 pounds fruit per 55 pounds sugar

Imitation—less than 25 pounds fruit per 55 pounds sugar

USDA grades:

US Grade A

US Grade B

US Grade C

Composition: moisture 20–35%; total solids 65–80%; water activity 0.75–0.80; sugar 2 tsp/tbsp.

1 tbsp = 55 calories

Storage: After opening, cover and refrigerate See *jellied products*; *jelly*

See Part 2: Calories, Daily Recommendations; Standards, Processed Fruit and Vegetable Products; Sugars and Sweets Composition; Water Activity, Organisms and Food

Jamaican cob nut A sweet tree seed

Jamaican pepper See *allspice*

Jamaica rum A dark, full-flavored rum

jaman (*jamba-va*) A brandy distilled from the juice of fruits of *Eugenia jambolana*

394 jambalaya

jambalaya A spicy creole dish of rice, fish or shellfish, or meat (e.g., pork and/or chicken and/or ham), tomatoes, and peppers

jamba-va See **jaman**

jamberry See **gooseberry**

jambolan (java plum) A plumlike fruit with astringent seeds See **java plum**

jambon Ham

jambon au torchon A boneless ham, wrapped in narrow bands of linen giving it a cylindrical shape; it is cooked and cooled in a stock

jambon blanc A smoked, country ham

jambon de Paris See **jambon blanc**

jamin-bang Corn bread

jamón Ham

jamón serano A country ham

jan A soy sauce made with wheat

jandagum See **locust bean gum**

jang A soy sauce

jang a gee Sliced, pickled, oriental radish (*Raphanus sativus*)

jang-son juhk Very salty, small, beef portions in rice

JAOAC Journal of the Association of Official Analytical Chemists

Japanese

Food habits:

Animal products—eggs, fish, milk

Grain—rice, noodles

Vegetables—many types

Japanese agar See **agar-agar**

Japanese artichoke (Chinese artichoke; choroqi; knotroot; Stachys sieboldi) A tuber used like Jerusalem artichoke

Japanese beetle A shiny, metallic, green insect or beetle with coppery brown wing covers; is about $\frac{1}{2}$ in. long and $\frac{1}{2}$ in. wide; larvae have light brown heads and are up to 1 in. long; 300 trees, shrubs, and flowers are suitable hosts

Damage—adults feed on foliage and many fruits; the larvae feed on roots, grasses, and other plants

Control—insecticide; apply milky disease spores to the soil in the form of dust or powder; may be controlled on grapes by applications of carbaryl, methoxychlor, malathion, or parthion

Japanese Black A very popular, Japanese breed of beef cattle

Japanese Brown The second most popular (9%) breed of Japanese beef cattle

Japanese bunching onion (Allium fistulosum) An onion similar to but larger than the Welsh

Japanese eggplant A small (6–7 in. long) eggplant
Storage: refrigerate

Japanese gelatin See **agar-agar**

Japanese leeks See **onion, Welsh**

Japanese liqueur Rice wine

Japanese mackerel Pacific mackerel

Japanese medlar See **loquat**

Japanese millet See **millet**

Japanese mint (Mentha arvensis var. piperascens) Often erroneously called Japanese peppermint; a rich source of menthol; label must read “flavored with corn mint or field mint”

Japanese Poll A Japanese, beef breed similar to the Angus

Japanese press ham A moist, cooked, smoked or unsmoked, Japanese sausage made from mild or medium seasoned beef, lamb, pork, veal, goat, mutton, horse, and rabbit; a mixture of 60–80% meat cubes (about 3–5 cm in size) of several different kinds of meat ingredients, 10–20% comminuted meat(s) of food binding quality, and 10–20% pork fatback cubes (about 2 cm in size)

Japanese quince A shrub that has light yellow berries that are used for jam

Japanese radish Daikon

Japanese rice wine See **sake**

Japanese salmon (salmon, cherry) A food fish

Japanese sea perch (Lateolabrax japonicus) A food fish

Japanese Shorthorn A breed that accounts for 4% of the Japanese beef cattle

Japanese sole (Glyptocephalus stelleri) A food fish

Japanese tuna (Thunnus thynnus orientalis) A food fish

Japanese walnut (Juglans sieboldiana) A tree producing edible nuts

japonica A fruit used to make jam or jelly

jaqi Dried, hard spheres of fermented milk or milk curds flavored with garlic, onions, and other herbs and spices

jar See Part 2: Glass Jar Tops

jardinière Fresh vegetables

jarlsberg A semisoft cheese from Sweden; Norwegian Swiss cheese; a semihard cheese that is creamy white and has holes and a bland, nutty flavor; a Gouda-type cheese with holes

jarlsberg cheese A sandwich, snack, or cooking cheese
1 cup, shredded = 4 oz

jasmine (Jasminum grandiflorum) A delicate, light tea that has a hypnotic aroma and is made from jasmine petals
See Part 2: Essential Oils

jasmine blossom blend A scented tea made from oolong tea and whole jasmine blossoms

jaundice A condition caused by absorption of bile by tissue; icterus

Java 1) An American class of chicken that lays a brown-shelled egg

Varieties	Plumage color	Shank	Beak
Black	Greenish black, undercolor black	Black to yellow	Black
Mottled	Black mottled with white, undercolor slate	Blue to yellow	Yellow

2) A variety of coffee originating in Java

Java almond See **Chinese olives**

Java arabicia A coffee bean (tan when unroasted) that produces a coffee that is robust, with a gentle aroma and creamy taste

Java black rot (*Diplodia theobromae*) A rot that causes sweet potatoes to be dry, hard, brittle, and black (under the skin) beginning at the end

Javanese almond See **pili almond**

java plum (jambolan) A fruit with dark or white flesh See **jambolan**

Javelle water (eau de Javelle) An aqueous solution of sodium hypochlorite (NaOCl) used as a bleaching agent or antiseptic

javril, sweet An aromatic root of a perennial herb

jbane A valençay-type cheese made from goat's or cow's milk and drained in woven baskets

JCU See **Jackson candle unit**

jee-rou Chicken

jejunum The upper two-fifths of the small intestine between the duodenum and the ileum

jellied Coated with jelly or gelatin

jellied beef A jellied and/or specialty American sausage made from medium to coarsely chopped, cooked, unsmoked beef; available in rings or loaves

jellied fruit products

Essential ingredients:

Acid—flavor and gel formation; may be supplied totally by fruit (higher in unripe fruit) or added (lemon juice or citric acid)

Fruit—flavor; part of pectin and acid

Pectin—may be supplied totally by fruit (higher when unripe) or added

To test for pectin in fruit juice: Add 1 tbsp cooked, cooled fruit juice to 1 tbsp denatured alcohol (poisonous; do not taste) and stir to mix. Juice high in pectin will form a solid, jellylike mass; juice low in pectin will form small particles of jellylike material

Sugar—aids gel formation and firming of fruit; preserving agent; flavor

Storage life—few months (loses flavor with storage)

jellied tongue A jellied and/or specialty American sausage made from medium to coarsely chopped, cooked, unsmoked tongue; available in rings or loaves

jelly 1) A colloidal suspension (usually fruit-flavored) that has gelled; made from pectin, agar, or gelatin by combining 45 parts of clarified fruit juice with 55

parts sugar. The fruit is cooked (8°F higher than water boiling temperature) and strained; sugar ($\frac{2}{3}$ sugar to 1 part fruit juice) and commercial pectin are added; product is then sealed for storage; pH 3.0–3.5. A candylike form is clear and firm enough to hold its shape; finished product may contain 40–70% sugar See also **gel**

Storage: After opening, cover and refrigerate

2) Animal gelatin obtained from bones and used to glaze or garnish 3) A type of fruit spread that is a clear, jelled juice from which all particles of fruit have been removed by filtering 4) Pudding (Jello-type) made with gelatin or seaweeds 5) Meat or fish extract, in which gelatin is hydrolyzed from collagen and acts as the jelling agent

1 tbsp = 0.6–0.7 oz

marmalade, 1 tbsp = 50 calories

USDA grades:

US Grade A

US Grade B

US Grade C

See **candy**; **jellied products**

See Part 2: Calories, Daily Recommendations; Standards, Processed Fruit and Vegetable Products; Sugars and Sweets Composition

jelly bean

10 jelly beans (1 oz) = 105 calories See **candy**

jellying point The stage at which boiled fruit extracts become viscous upon cooling

jelly powder Gelatin that is sweetened and flavored or unsweetened with no flavor added

jelly roll A sponge cake filled with jam and topped with powdered sugar

jelmeter test A jelmeter is a graduated tube with openings at each end; the rate of flow of juice through the tube gives an estimate of pectin in the juice

jenever See **genever**

jennet A small horse

jenny A female ass

jeotkal A fermented, salty, fish-paste condiment

jerked beef (**jerky**) Meat cut in strips and hung to dry; beef jerky; will keep indefinitely

jerk pork Pork jerky

jerky (**charqui**) Thin, dried strips of meat; salted and sun or hot-air dried (MPR of 0.75 : 1 or less), thin strips of lean meat

jeroboam A measure of volume

1 jeroboam = 4–6 bottles

Jersey A breed of dairy cattle that originated on the island of Jersey; color; shades of fawn with or without white markings; gives rich milk

See Part 2: Dairy Cattle Breeds; Gestation Periods; Milk Breeds, Composition; Milk Composition

jersey cudweed A plant used like spinach

jersey gauche A tea bread with currants and mixed citrus peel

396 Jersey Giant

Jersey Giant The largest American class of chickens; it lays a brown-shelled egg

Varieties	Plumage color	Shank	Beak
Black	Blackish green, undercolor—slate	Black to yellow	Black to yellow
White	White	Green to yellow	Yellow

jersey mark See *scurf*

Jersey Red A breed of red hog that contributed to the Duroc breed

jeruk 1) Pickles 2) Pickled fruit

Jerusalem artichoke (sunchoke; *Helianthus tuberosus*) A vegetable whose stem-tuber is 4 × 2.5 in. long and resembles a ginger knob in size and color; used as food with other vegetables (e.g., potatoes) or in salads, relishes, and pickles; a member of the daisy family that produces an underground, whitish, yellowish, or pinkish, knobby, stem-tuber; the tubers are used as cooked vegetables and contain inulin. Can be eaten baked, boiled, creamed, or raw; prepared and cooked like potato (cooked in jacket); can be used in place of water chestnut; eaten raw it has a nutty, pleasant, slightly sweet flavor and a crunchy texture. Also used as animal feed. Entirely different plant than the globe artichoke but the edible parts (that resemble a potato) have similar flavor

Types:

- Chinese variety (*Stachys officinis*)—long, irregular tubers
- Long tuber with red skin
- Purple skin
- Round, knobby tuber with white skin
- Yellow skin

Equivalents

- 1 acre = 500 pounds
- 1 serving = $\frac{1}{4}$ pound

Composition (raw): moisture 80%; protein 2%; fat 0.1%; carbohydrate 17%; ash 1%

Storage: 32°F, 90–95% relative humidity for up to 5 months

See Part 2: Storage; Vegetable Composition

Jerusalem cherry A plant having a toxic principle
See Part 2: Poisonous Plants

jessamine A plant having a toxic principle
See Part 2: Poisonous Plants

jésus A dry, uncooked, unsmoked French salami-type sausage made from coarsely chopped, mildly seasoned, pork that is fermented and stuffed into a pork casing

jetrena pasteta A moist, cooked, unsmoked Yugoslavian sausage that is made from mildly seasoned, finely chopped, beef and pork and sometimes stuffed into a 66–75-mm beef or sheep casing

jetrenjaca A moist, cooked Yugoslavian sausage made from medium chopped, medium seasoned, pork and sometimes stuffed into a 66–75-mm beef or sheep casing

Jewfish (ghol; *Johnius sina*) An Indian finfish that has light meat and light to moderate flavor; used for food See *grouper*

Jewish fish See *gefilte fish*

Jew's root See *parsley, hamburg*

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jibna baida A white, brined cheese made from skimmed cow's or buffalo's milk

jibne See *gibne*

jicama A turniplike root vegetable that is grapefruit size and has thick brown skin, white flesh, a slightly sweet, water-chestnut-like flavor, and a crisp texture similar to a turnip or radish; may be eaten raw in salad; stays crisp when cooked

- 1 small jicama = 1.5 lb
- 1 cup, peeled and cut into thin strips = 6–8 oz
- 1 cup, cubed = 5 oz
- 1 cup, shredded = 4 oz

Storage: refrigerate, wrapped in plastic, unwashed

jiffy steak Same as cube steak

jigger A volume measure of liquor (1.5 oz); this volume in most liqueurs weighs 43 g

- Small jigger = 1 oz
- Large jigger = 2 oz

jim Beef

Jimmy fern A plant having a poisonous principle
See Part 2: Poisonous Plants

Jimson weed A plant having a poisonous principle
See Part 2: Poisonous Plants

jinnie See *jenny*

jizrael A Swiss cheese made from cow's milk

jo First grade

joala A sorghum beer

job lot ordering Buying the components necessary to manufacture according to a customer's specification

jocote See *red mombin*

joghurt Yogurt

johannis An effervescent, table water; effervescent, carbonic-acid water

johannisberger A white wine

johannisberg riesling A full, soft, semidry wine

john dory (john doree) A small, yellow or olive, marine, food fish similar to the porgy

- Australia—*Zeus australis*
- Japan—*Z. japonicus*
- United Kingdom—*Z. faber*

johnnycake (johnnycake; jonny cake) 1) A bread made from water-ground, cornmeal; served hot; often eaten with maple syrup 2) A white, cornmeal, griddle-fried cake 3) A bread made from cornmeal, milk, eggs, and salt

Johnson grass (*Sorghum halepense*) A perennial grass that is very difficult to eradicate; often considered a noxious weed

Uses: hay, pasture, green chop, and silage

See Part 2: Poisonous Plants; Seed, Germination

johnston fruit rot See **pitting**

johnnycake See **johnnycake**

joint 1) To cut meat 2) A piece of meat, usually including bone, for cooking 3) A junction of bones

jojoba oil A vegetable oil obtained from a desert bush; contains unsaturated fatty acids; has a unique, waxy consistency; has replaced spermaceti in many instrument oils and cosmetics

See Part 2: Unsaturated Fatty Acids

Jonathan A variety of apple that is in season from September to January; an excellent eating and cooking apple and a good sauce apple

jonchee A soft, white cheese made from goat's milk; usually unsalted; consumed fresh or cured 1–2 weeks

jonchee d'oleron (oleron) A soft, white cheese made from sheep's milk

jonchee niortaise A soft, white cheese made from goat's milk

jonge A type of dry gin

jonny cake See **johnnycake**

jora (muko; pachoucho) Germinated, dried grains of maize; used as malt for chicha

josephine cheese A soft curd cheese made from whole milk with rennet added

josser See **codling**

jotkal A fermented, salty, oyster- and fish-paste condiment

joule (J) A unit of work or energy or heat; the absolute meter-kilogram-second unit of work or energy; recommended for international use as a unit of food energy to replace kilocalorie

A unit of electrical work:

x volt times y coulomb = xy joule

x watt times y second = xy joule

1 joule (J)

= 1×10^7 ergs

= 0.7375 foot-pounds (ft-lb)

= 0.23889 calorie (thermal unit)

= 0.10198 kilogram meter (kg-m)

= 0.0009480 British thermal unit (Btu)

= 0.0002778 watt-hours (W-hr)

= 0.0002389 kilogram-calorie (thermal unit)

= 0.0000003777 metric horsepower-hour

(75 kg-m-hr)

= 0.0000003725 U.S. horsepower-hour (h.p.-hr; U.S.)

= 0.0000002778 kilowatt hour (kw-hr)

1 kilocalorie = 4.184 kilojoules

4.184 joule = 1 calorie

joule per centimeter

= 1×10 dynes

= 10299 grams (g)

= 723.3 poundals (pd)

= 100 joules/meter (J/m; Newton)

= 22.48 pounds (lb)

journiac cheese A soft, blue cheese

jowl Pork carcass area (cheek) parallel with the ribs and located in front of the shoulder and below the ear area (3–4% of carcass); it is cured to make jowl bacon or used fresh in sausage; for sausage use, should be sliced every inch to inspect for abscesses

See Part 2: Pork Carcass, Retail Yield; Pork Chart; Pork Cuts; Pork Wholesale Cuts; Pork Yield

jowl bacon (bacon square) A square cut of bacon made from the cured, pork jowl

joy of the mountain See **oregano**

jroo-rou Pork

jub-jub Dried, hard spheres of fermented milk or milk curds flavored with spices

jubna A white, brined cheese made from sheep's or goat's milk

jud The smallest detectible difference between two stimuli

Judaism, dietary rules No food is cooked on the Sabbath (starts sundown Friday)

General food habits

Animal products—forequarter of beef and lamb; fish

Cheese—kosher

Fruit and vegetables—dried fruit; legumes; pickles

Grains—barley; buckwheat; matzo; noodles; rye bread

Soup—many types

Orthodox (most traditional):

Permitted: fruit, vegetables, grain (in practical terms all plants in the United States are kosher), tea, coffee

Permitted if processed by prescribed methods: meat (front quarter of mammals that must both chew their cud and have a split hoof; all are herbivores), poultry, fish (that have fins and removable scales)

Not permitted: pork, blood, shellfish, birds of prey, insects except locusts, reptiles, amphibians, cartilaginous fish

Dairy products and meats:

cannot be cooked together

food mixtures of these not permitted

some utensils, dishes, and cutlery may not be used for both

milk may not be consumed within 1, 3, or 6 hours after meat

Conservative (follows a mixture of rules from the other two categories):

Reform (most liberal; used primarily on religious holidays)

Avoid dairy and animal products at same meal

Avoid two vegetables from same botanical family at same meal

Use chicken fat or vegetable oil instead of lard or tallow

Rework leftovers as a new dish rather than re-serving them See **kashruth**; **kosher**; **Yom Kippur**

Judas goat A goat used to lead sheep to slaughter

judge A person usually with special qualifications who participates in an evaluation

jugo-bitter A quinine-flavored, red, aperitif wine

jugular Neck or throat; major vein returning blood from head

jugurt Yogurt

juhla A cheddar-type cheese

juhn Fried

juice The liquid from raw meat, fruit, or vegetables

juice, fruit Sweetened or unsweetened, filtered juice of fruit; pasteurized after sealing *See fruit juice*

juiciness Ability to produce juice; succulence

juicy Succulent; containing moisture and sometimes fat

juicy pineapple *See pineapple physiological breakdown*

jui-paing Gray-white, dried balls of starter containing bacteria, mold, and yeast on a starch or cereal base; used as inoculum for fermented foods

jujube (Chinese date; t'sao) 1) Shrub of buck horn family 2) Chinese date; red-yellow, orange-red to brown or white, egg-sized datelike tropical fruit; $\frac{1}{2}$ in. diameter; leatherlike skin; crisp textured, yellow, subacid, sweet (20% sugar when ripe) flesh and long slender stones; may be available fresh, dried, or made into preserves 3) A gelatin candy
See Part 2: Fruit Composition

julep An alcoholic drink flavored with the leaves of an aromatic plant; mint julep is an example

julepse, kokt A moist, cooked, unsmoked Norwegian sausage made from finely chopped, medium seasoned, beef, pork, and veal and stuffed into a beef casing

julepse, rokt A moist, cooked, smoked Norwegian sausage made from finely chopped, medium seasoned, beef, pork, and veal and stuffed into a beef casing

julienne 1) Vegetables (e.g., potatoes) or meat cut in long thin strips 2) Clear soup made from beef broth, whole peas, and cut cabbage, carrots, celery, leeks, and turnips *See bean, green; shoestring*

July Elberta Season A peach cultivars that ripen midseason, 2 weeks before Elberta

jumelage (twinning) Buyers in the European Economic Community (EEC) must match the weight of supplies from other exporting countries with those purchased from EEC

jumped seam A double seam that is not rolled tight enough near the crossover

jumping mullet *See mullet*

jun Fried

June bearing Strawberries that bear one crop of fruit per growing season, usually in late spring or early summer

June beetle *See green June beetle*

juneberry (saskatoon; serviceberry; shad-bush; Amelanchier) A bush fruit that is $\frac{1}{4}$ – $\frac{3}{4}$ in. in diameter, dark red to purple in color, and has a mild flavor; used fresh, dried or in pies and jelly; also mixed with other fruit in pies or preserves *See serviceberry*

Jungchang A prolific, white pig distinguished by black spots near the head; originated in Szechwan (Sichuan, central China)

jung jang A rice wine

Jungle, The A 1905 story written by Upton Sinclair that told about the exploited immigrant packing house workers and abuses in the meat industry; it led to congressional passage of the Meat Inspection Act of 1906

jungli amba *See ambarella*

jung yang chun A spirit-based, alcoholic beverage; a liqueur

junior feed *See chopped food*

juniper (*Juniperus communis*) A dark blue, oil extract of berries from an evergreen tree used in flavoring gin, liqueurs, and cordials; available fresh or dried; crushed before use; used to flavor meat and salads

juniper berry oil A volatile oil obtained by steam distillation of *Juniperus communis*; used as a flavoring agent in food

Storage: full, tight glass container in a cool, dark place

junket 1) Soft, sour milk product; milk that has had a concentrated extract tablet of rennin added; after warming to 98°F, a small amount of rennet is added; the mixture is then allowed to cool and clot 2) A word sometimes used to mean rennet

1 junket tablet will coagulate 3 gallons of milk

junket tablet A tablet form of rennet

jura blue *See septmoncel*

juruk 1) Pickles 2) Pickled vegetables

jus Juice; extract of meat; au jus denotes "with natural meat juice"

jute (*Corchorus capsularis*; *C. olitorius*) A vegetable fiber (60–65% cellulose) composed of extremely long fibers of cellulose; used for twine

juustoleipa A soft, white cheese made from cow's milk that is hand pressed and roasted with fire

K

K 1) "K" on label indicates that food is kosher according to Jewish dietary laws and is processed under the direction of a rabbi. 2) Computer shorthand for the quantity 1024 See **kelvin**, **kilohm**, **potassium**

k See **kilo**

K_A See **dissociation constant**

ka-ak (kahk; kaki) A crisp, crusty, baked snack made from wheat flour and shaped as a twist or a hollow ring; may be coated with salt, sesame, or thyme

kaanga-kopuwai (kaanga-pirau; kaanga-wai) A fermented, maize gruel

kaanga-pirau See **kaanga-kopuwai**

kaanga-wai See **kaanga-kopuwai**

kaas Cheese

kabanas A semidry, cooked, smoked Australian sausage made from medium chopped, heavily seasoned, beef and stuffed into artificial casings

kabanos A moist, cooked, smoked Australian sausage made from medium chopped, medium seasoned, beef See **cabanos**

kabanossi special A dry, uncooked, smoked Irish sausage made from coarsely chopped, heavily seasoned, pork that is fermented and stuffed into an artificial casing

kabanosy A dry, cooked, smoked Polish sausage made from medium chopped, medium seasoned, pork and stuffed into a sheep casing

kabeljou (Johnius hololepidotus) A food fish

kabinett A light, usually dry, elegant, and delicate wine

kablerleberwurst A moist, cooked, unsmoked eastern German sausage made from fine or medium chopped, medium seasoned pork liver and stuffed into a pork casing

kabob (kebab) Alternating chunks of food cooked on a skewer

See Part 2: Pork Cookery; Pork, Cooking; Pork Loin Cooking

kabubulika (kapapa) Gray-white, dried balls of starter containing bacteria, molds, and yeast on a cassava base; used as inoculum for banku

kabute Straw mushroom

kabuteng dayami Straw mushroom

kabuteng ginikan Straw mushroom

kabuteng saging Banana mushroom

kachasu A clear, crude distilled, alcoholic spirit; a local gin

kach doo ki gactuki An acidic, carbonated, oriental radish

kachkaval A provolone-type cheese made from sheep's and/or cow's milk; often cooked and fried

kackavalj A cheese made from ewe's milk

kadam-bari A brandy distilled from fermented juice of kadamba (*Anthocephalus indicus*)

kadaya See **gum karaya**

kadour A moist Iranian sausage made from coarsely ground meat and stuffed into a beef casing

kaeldermelk See **kumiss**

ka-fei Coffee

kaffe Coffee

kaffir beer A sorghum beer

kaffir corn 50–56 lb/bu; See also **millet**

kaffir orange A fruit that has a hard rind, orange shape and size, and brown pulp

kafir A plant having a toxic principle
See Part 2: Poisonous Plants

kagar A pastry

kahk See **ka-ak**

kahlua A low alcoholic liqueur flavored with coffee

kai choy See **gai choy**

kail Kale

kainite A neutral fertilizer material; contains potassium chloride (KCl) and magnesium sulfate (MgSO₄); 0-0-20

kaiserbirnlikor A citrus liqueur

kaiser roll A roll made from milk and wheat flour and with a star shape cut into the surface

kajmac A cream cheese made from sheep's milk; may be fresh or matured

kajmar A Serbian, cream cheese

kaju See **cashew nut**

kakduggi An acidic, carbonated, oriental radish

kaki See **ka-ak**

kaklo A fermented, deep-fried maize often with plantain flour

kaklui A sour, maize porridge

kakshe A brandy distilled from fermented, local fruit

kal A type of dawadawa

kalach A white, wheat bread

kalberwurst An uncooked, smoked or unsmoked, American sausage made from medium to coarsely chopped meat and formed into a large diameter link or ring; similar to bockwurst but there is no limit on water or milk

400 kalbsbratwurst

kalbsbratwurst A moist, cooked or uncooked, unsmoked Swiss sausage made from finely chopped, mildly seasoned beef, pork, and veal and stuffed into a beef, pork, or artificial casing

kalbsleberwurst A moist, cooked, unsmoked eastern German sausage made from finely chopped, medium seasoned pork and veal liver and stuffed into a beef or pork casing

kalbsleberwurst feine leberwurst A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from fine or medium chopped, medium seasoned, beef, pork, and veal with finely chopped liver added and stuffed into a beef, pork, sheep, or artificial casing

kale (borecole; cale; cole; colewort; kail; winter greens; *Brassica oleracea* var. *viridis* and *acephala*) A plant belonging to the cabbage family (related to wild cabbage), whose curly, blue-green, reddish brown, or purple leaves are used as greens, garnish, and livestock feed; used raw in salads or may be stewed, fried, or baked; often cooked like cabbage or spinach; 10,000–12,000 seed/oz; 7–10 days germination period; thin to 12–24 in. in rows 24–36 in. apart; matures in 70 days; yield 60 bu/100-ft row

Types:

Scotch—gray-green

Siberian—bluish green

Kale variety	Season	Plant	Leaves
Dwarf Blue Curled Vates	55 days	Nonheading, short stem	Blue-green
Dwarf Blue Scotch	70 days	13 in. tall	Blue-green
Dwarf Green Scotch Curled	50–70 days		
Dwarf Siberian	50–70 days	12–16 in. tall, plumelike leaves, frilled edges	Gray-green
Green Curled Scotch	55 days	15 in. tall	White ribbed, yellowish green, finely curled

Available in canned and frozen forms

1 bu fresh = 18 pounds

= 12–18 pt, fresh

1 pt, frozen = 1–1.5 lb, fresh

1 lb, fresh, untrimmed = 5–6 servings

16 oz, canned = 2–4 servings

10 oz, frozen = 2–4 servings

1 cup, cooked = 200 g

1 cup, frozen, chopped = 6.6 oz

1 cup, frozen, boiled, and drained = 6.4 oz

1 cup, boiled, with stems = 3.8 oz

Composition (raw leaf): moisture 83–87%; protein 4–6%; fat 0.8%; carbohydrate 6–9%; ash 1.5%

Composition (cooked): fiber 2%; fat 0.6–0.8%

Storage: Wash thoroughly; drain well; store in refrigerator (32°F) crisper or plastic bag (90–95% relative humidity); use within 1–12 days

See Part 2: Minerals, Food; Nicotinic Acid, Food; Nitrate, Vegetables; Plant Foods, Composition; Planting Density; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Cooking; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Yield Canned and Frozen; Vegetable Yield Frozen, Canned and Fresh; Vegetable Yields

kalecik A white or red wine

kale, sea (*Cramba maritima*) The sprout and young leaf of the plant is used for food; high in iodine

kalfabjugu A moist, cooked Icelandic sausage made from medium chopped, medium seasoned lamb and veal with lamb fat added and stuffed into an artificial casing

kali A sweet, slightly alcoholic, glutinous rice often eaten with yogurt or buttermilk

kalja An alcoholic beer made from rye

kallu A sweet, cloudy, white wine made from palm tree sap

kalo A thick, porridge gruel made from sorghum or millet See **taro**

kalua pig Hawaiian pork roasted over hot coals in an outdoor pit producing a product that is juicy and succulent

kalverull A moist, cooked, unsmoked Norwegian sausage made from medium chopped, mildly seasoned, beef, pork, and veal; either unstuffed or chub style, stuffed into an artificial casing

kamaboko A fish-based, rubbery sausage or cake that is white, pink, or green, and is often floated in oriental soup

kamachile A tree that yields edible fruit, a yellow dye, and mucilaginous gum

kamag A pocket, flat bread

kamchatka salmon (*Salmo mykiss*) A food fish

kammfleischwurst A moist, cooked, smoked eastern German sausage made from fine or coarsely chopped, medium seasoned beef and pork and stuffed into an artificial casing

kamu A sour, sorghum or millet porridge

kanabossi special A pork pepperoni

kanaffa A shredded grain soaked in sugar solution

kangra goat of Tibet See **cashmere**

kanjang A soy sauce

kanji A red, strong-flavored, alcoholic beverage made from carrot or beet juice

kannu tzamia A porridge made from sour millet with tamarind water

Kansas City dog (frank; ruben dog) A frank served on a sesame seed roll with sauerkraut and melted Swiss cheese

Kansas City steak See **strip steak**

Kansas dog (frank) A frank served with melted cheddar cheese and mustard

- Kansu pig** A black pig from Kansu province, China
- kantar (metric)** A unit of weight used in Egypt and Sudan
 1 kantar = 82.286 pounds
 = 0.044928 metric ton
- kanten** A form of agar agar, bar kanten, and/or slender kanten
- kantong** Dark brown, fermented balls of kapok seed used in soup and stews
- kantwurst** A dry, uncooked, smoked Austrian salami or sausage made from coarsely chopped, medium seasoned (nitrite), beef and pork, fermented and stuffed into artificial casings with a diameter of greater than 30 mm
- kanyak** Brandy
- kaoliang** Sorghum; vodka made from sorghum and sometimes flavored with rose petals
- kaolin** A purified clay used as an anticaking agent; also used in manufacture of china and other ceramic products
 Storage: well-closed container
- kapapa** See **kabubulika**
- kapestoes (tarhanocirv; trahana; zamplaricos)** Sheep's milk with crushed wheat
- kapi** A fermented, salty, fish-paste condiment made from small fish
- kapok** A light, vegetable fiber used for insulation; the seeds yield an oil used for soap manufacture
 See Part 2: Fatty Acids; Insulation; Iodine and Saponification Values; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Tiğer, Fats and Oils; Unsaponifiable Matter
- kappa (K, κ)** Greek letter that is the English equivalent of k
- kappeli** A soft to semisoft, strongly flavored cheese made from cow's milk and is bacteria surface-ripened
- karab (eriwani; kasach)** A Russian cheese made from sheep's milk
- karah** Butter
- Karakul** A broadtail breed of sheep whose greatest value is for young lamb pelts that are used for fur
 See Part 2: Sheep Breeds
- karamanlidika** A semidry or dry, cooked, unsmoked Greek sausage made from coarsely chopped, heavily seasoned lamb that is fermented and stuffed into sheep casings; eaten after cooking in sheep fat
- karavai** A tea bread with lots of raisins
- karaya** See **gum karaya**
- kareish** A white, brined cheese made from skimmed buffalo's milk
- karish** A white, brined cheese made from buffalo's milk
- karo** A thick porridge gruel made from sorghum or millet
- karpatsensalami** A dry, uncooked, smoked eastern German sausage made from medium chopped, medium seasoned beef and lamb that is fermented and stuffed into a beef or artificial casing
- karpi** A cranberry (*Vaccinium oxycoccus*) liqueur
- kartano** A gouda-type cheese
- karut (kurt; qurut)** Dried, hard spheres of fermented milk or milk curds
- karut cheese** A hard Indian cheese made from skimmed milk
- karyotyping** A visual representation and classification of an individual's chromosomes
- kasach** See **karab**
- kasar** An Esbareich-type cheese
- kascaval cheese** A loaf-shaped cheese made from sheep's milk with rennet added
- kaschiri** Chicha made from cassava tubers
- käse** A German word for cheese
- kaser** A semihard cheese made from ewe's milk
- kaseri** A 9-kg, provolone-type cheese made from sheep's milk; sometimes dipped in flour and fried
- kasha (kascha; toasted buckwheat groats)** A cooked cereal; more intense flavor than other whole grains; cracked buckwheat, barley, or millet; toasted buckwheat groats or seed
 Storage: tightly closed container in a cool place; freeze for longer storage
- kasher** See **kosher**
- kashering** Removal of blood
- kashk** Dried, hard spheres of fermented milk or milk curds flavored with herbs and spices
- kashkaval** A soft, creamy, smooth provolone-type cheese that is firm, amber, and salty and is made from ewe's and/or goat's and/or cow's milk
- kashkawan** A provolone-type cheese made from goat's milk
- kashrut** See **kosher**
- Kashruth** Jewish dietary laws See **Judaism, dietary laws**
- kass** A clear, mildly alcoholic, sorghum beer
- kasseler** A cured, pork loin smoked with wood and juniper berries
- kasseri** A fresh or dried, soft, firm cheese that is mild and white and is made from goat's or ewe's milk
- kastanienreis** See **Mont Blanc chestnut**
- kastenbrot** A white, square-shaped, wheat bread
- katate** A clear, mildly alcoholic, maize beer
- katayef** See **ataif**
- katenrauch** A dry, uncooked, smoked Irish sausage made from coarsely chopped, medium seasoned beef and pork that is fermented and stuffed into an artificial casing
- katenspeck** A hot-smoked, pork belly that has a black surface
- katenwurst** A beef or pork pepperoni (sometimes only semidry); a semidry, uncooked, heavily smoked eastern German sausage made from medium chopped, heavily seasoned beef and pork that is fermented and stuffed into a beef or pork casing

402 kathroko

kathroko A turbid, alcoholic wine made from sugar cane juice; usually consumed fresh

kati A weight used for tea
1 kati = 1.43 pounds (avoir)

katjang-boengkil Sufu soybean curd

katschawalj cheese A Siberian cream cheese made from sheep's milk

katsudon Deep fat fried, pork cutlets with eggs, onions, and rice

katsuobushi Dried, hard, skipjack tuna used for flavoring
See Part 2: Fungi Food Products

katyk Yogurt

kauk-yo-hmo Straw mushroom

kava (arva; ava; yava; *Piper methysticum*) The root of this plant is mashed and fermented to produce a beverage; claimed to be nonalcoholic but intoxicating See **ava**

kavaklidere A white or red wine

kava kure cheese A natural cheese eaten with crackers

kavaljer A tilsit-type cheese

kaviarbread See **meter bread**

kawal Balls of the leaves of the legume *Cassia obtusifolia* used in soups and stews

kaymak Fresh or ripe, clotted cream

kazakh fat rumped sheep Polled, fat rumped sheep that have brown or black fleece (coarse carpet); used for pelts, wool, and mutton; found in Sinkiang (Xinjiang, north west China) area

kc A shorthand form of kilocycles/second; its use is discouraged

KCN broth base Media containing potassium cyanide used for differentiation; permits differential growth of *Enterobacteriaceae*; *E. coli*, salmonella, and shigella are inhibited but *Klebsiella*, *Bethesda-Ballerup*, and proteus grow unrestricted.

See Part 2: Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

kebab (cabob) Grilled or broiled (usually with charcoal) meat and/or vegetables cooked on skewers

kebab Small pieces of meat cooked on a skewer

kecap A soy sauce made from black soybeans and roasted cassava flour

kecap asin A salty soy sauce

kecap ikan A fish (*Stolephorus leignathus* or *clupea*) sauce

kecap manis A sweetened, soy sauce

kedgerie Rice with smoked, flaked fish and hard-boiled eggs

keemun See **black tea**

keeper casing An oxygen-semiimpermeable casing often used to store meat; meat will remain in the metmyoglobin state (brown)

keeping quality The general resistance of food to undesirable changes during storage

keet A guinea chick See **baby keet**; **guinea**

kefalograviera A hard, cow's milk cheese made by adding starter culture and rennet; the curd is salted, pressed, and matured

kefalotvri A strong, salty, hard cheese made from sheep's or sheep's and goat's milk

kefalotyri A hard, salty, yellow cheese made from ewe's or goat's milk

kefir (kefyr, kephir) A fermented milk produced by a double lactic acid-alcohol fermentation; acidic, alcoholic, effervescent goat's, buffalo's, or cow's milk.

Procedure:

1. Heat whole or skimmed milk to 95°C for several seconds
2. Homogenize
3. Cool to 22°C
4. Inoculate with 1.5% mixed inoculum from *Streptococcus lactis*, *S. cremoris*, *S. lactis* var. *diacetylactis*, *Lactobacillus caucasicus*, *L. acidophilus*, *L. casei*, *Kluyveromyces fragilis*
5. Final acidity of 0.9–1.1% lactic acid; alcohol level of 0.5%

See Part 2: Fluid and Fermented Milks, Composition; Milk and Milk Products, Vitamin Content

kefir grains The portion of kefir batch that contains microorganisms used as a starter for the next batch

kefyr See **kefir**

keg

1 beer keg = 180 (12 oz) servings

keittometwursti A moist, cooked, smoked Finnish sausage made from medium chopped, medium seasoned, beef and pork that is stuffed into a 75-mm artificial casing

kellerabfullung Cellar bottling; location of bottling

kelp (*Fucus* and *Laminaria* spp.) A brown seaweed high in trace minerals (especially iodine); used as food; a type of algae; may grow to lengths up to 100 ft; is mechanically harvested

Storage: well-closed container See **algae**

kelt Salmon after spawning See **salmon**

kelvin (K) See **absolute temperature**; $K = ^\circ C + 273.15$.

See Part 2: Temperature

kemp Coarse hair or dead fibers or white fibers found in wool, usually from the outer thighs and crotch area; it will not take dye

kenaf (*Hibiscus cannabinus*; *H. sabdariffa*) A plant used as a textile and pulp fiber

kench A container used for salt curing

kench-cured fish Dried fish

kenima A fried, soybean cake

kenkey 1) Acidic, maize dumpling. 2) Iced kenkey—nonalcoholic, sour drink made from maize

Kenland A variety of red clover

kentish huffkin A tea bread with no fruit

Kentucky 31 A variety of fescue

Kentucky bluegrass A variety of bluegrass

Kentucky ham A dry-cured, country ham that is produced in Kentucky

Kenya AA A light, sharp coffee from the Mt. Kilimanjaro region of Africa

kephalin See **cephalin**

kephir See **kefir**

kerasin A glycolipid that yields galactose, sphingosine and lignoceric acid as a result of hydrolysis

keratin Principal protein (scleroprotein or albuminoid) in wool, hair, hooves, horns, nails, and outer layer of epidermis; some of its amino acids are arginine, aspartic acid, cystine, glutamic acid, lysine, tryptophan, and tyrosine

keratinization Production of a horny layer

kernel The whole grain seed or cereal 1) Seed. 2) Inside portion covered by a shell or stone. 3) Body of seed

kernel smut A fungus (*Neovossia horrida*) disease of rice that may be controlled by planting resistant varieties of rice or applying nitrogen fertilizer

kernel spots A rice disease that can be caused by many fungi, including *Trichoconis padwickii*, *Helminthosporium* spp., *Curvularia* spp., *Alternaria* spp., *Fusarium* spp., *Oebalus pugnax* (rice stink bug); there are no control measures except insect control

kernhem A strong, cream cheese

kerosene (kerosine) An oil obtained from distillation of petroleum and from oil shale; 1 gal = 7 lb See **petroleum**

See Part 2: Fuel, Heating Value

kerosene emulsion A spray of kerosene, water, and soap

Kerry An Irish breed of small, black, dairy cattle

Kerry Hill A hill breed of British sheep

kerupok A prawn or fish puff or cracker

kesong puti A cheese made from buffalo's milk

kesrah See **kisra**

kesti A tilsit-type cheese flavored with caraway seed

keta See Part 2: Salmon and Trout

ketchup See **catchup**

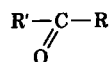
ketjap (shoyu or soy sauce) 1) A liquid produced from fermented soy products. 2) Hot sauce; a soy sauce made from black soybeans and roasted cassava flour See **soy sauce, sweet**

See Part 2: Fungi Food Products

ketjap ikan See **kecap ikan**

ketogenesis The production of ketone or acetone bodies in the body

ketone



A class of organic compounds in which two alkyl or aryl groups are attached to a carbonyl group; the most common ketones are acetone and methyl ethyl ketone

ketonuria The presence of ketone bodies in the urine

ketosis (acetonemia) Elevated ketone bodies in body tissue and fluids; disorder caused by imbalance (usually glucose) between nutrient intake and nutrient requirements that causes an increase in ketone or acetone bodies and is manifest as a drunkenlike state; treatment consist of administration of glucose

kettle grill A spherical, cast metal, grill; half of the sphere houses the grill; the other half functions as a lid, which allows its use as a Dutch oven or for roasting or for smoking, in addition to grilling

ketupat A cake made from eggs, rice flour, sugar, grated coconut, and manisan

kewane A Japanese, green tea

key An instrument used for removing the scored section of a key-opened can

key-opened can Any can that may be opened with a key

KF streptococcus agar See Part 2: Microorganism, Culture Media; Water and Sewage, Standard Methods

khab-z (khabz) A pocket, flat bread

khachapuri A fried, wheat flour, dough pie filled with cheese, fish, meat, and sometimes fruit

Khaki Campell duck An egg-producing breed of duck that originated in England by crossing

Types:

Fawn; Mallard; Rouen; White Runner

Females—brown head and neck; remainder is khaki; greenish black bills and brown legs and toes

Males—brownish lower backs, tail coverts, head, and neck; remainder is khaki; green bills and dark orange legs and toes

White variety—orange bills and legs

khaman A bread made from bengal gram (*Cicer arietinum*)

khamir A yeast used for making bread

khamiri puri A flat, fermented, deep-fried, wheat bread

khamon-tan A sweet, slightly alcoholic, glutinous rice

khanom-thai-fu A sweet, slightly alcoholic, glutinous rice made into a cake

khao-mak A sweet, slightly alcoholic, glutinous rice

kharadya A wheat flour doughnut

khar-jura (varuni) A sweet, cloudy, white wine made from date-palm sap; wine fermented from dates (*Phoenix dactylifera*)

khehari See **pea, grass**

khoya A thick cream

khubz mbassis A crisp, crusty bread baked in a solid ring and made from semolina flour and olive oil

kiam A sour, diluted, skimmed milk

kiam chai (kiam chye) Pickled mustard leaves

kiam chye See **kiam chai**

kiangsu (round barrel) A slate gray (sometimes black or white), draft water buffalo that originated in Tanyang county, China

404 kibbleh

kibbleh A dish of ground lamb and cracked wheat

kibbed Crushed, baked dough or extruded cooked dough

kid A young goat; immature, caprine meat

kidney One of a pair of organs of the body that excretes liquid waste products of metabolism and is embedded in a fatty deposit. Two $\frac{3}{4}$ -pound kidneys per 1000 pound steer; human kidney ultrafiltrates 170 liters (45 gallons) of liquid per day; human urine 1.5 liters (1.6 quarts) per day

Preparation for food—wash, remove outer membrane, cut into $\frac{1}{2}$ -in. slices

Composition (raw): moisture 76–79%; protein 15–17%; fat 3–7%; carbohydrate 1%; ash 1.3%; cholesterol 315 mg/3-oz beef kidney; sodium: 71 mg/oz of beef kidney, 14 mg/oz of pork kidney, 16 mg/oz of poultry kidney

Storage: Coldest part of the refrigerator; use within 1–2 days

See Part 2: Beef Retail Yield; Cholesterol Control; Gland Weights; Lamb Cuts and Uses; Meat, Servings Per Pound; Minerals, Food; Nicotinic Acid, Food; Organ Weights; Pantothenic Acid Content; Thiamin, Food; Variety Meat, Cooking; Variety Meat Percentages of Daily Recommended Allowances; Variety Meat Preparation; Vitamin A, Food

kidney bean *Phaseolus vulgaris* bean See **French bean**

kidney chop See Part 2: Veal Chart; Veal Cuts; Veal Cuts and Uses

kidney knob The fat surrounding the kidney; perirenal fat

kidney sausage A medium to coarsely chopped, cooked, unsmoked, jellied and/or specialty sausage made from medium to coarsely chopped meat; available in rings or loaves

kidney suet A large piece of beef fat that encases the kidney

kielbasa (kielbassy; kolbarsy; kolbasa; kolbase; kolbassy; Polish sausage) A cooked, Polish sausage made from coarsely ground pork and finely chopped beef that is highly seasoned; also a fresh (uncured and uncooked) variety; uncooked, smoked, sausage that is highly seasoned with garlic; a highly seasoned cooked sausage made from coarsely ground pork with added beef or mutton; a smoked sausage made from pork and beef and seasoned with garlic and herbs

Composition: moisture 54%; protein 13.3%; fat 27%; carbohydrate 2.1%; ash 3.5%; sodium 280 mg/slice (26 g) See **Polish sausage**

See Part 2: Sausage Identification

kielbassy See **kielbasa**

Kienli A prolific, black and white, lop-eared pig from Hupeh (Hubei) and Hunan (south central) provinces, China

kieselguhr See **diatomaceous earth**

kieserite $\text{MgSO}_4 \cdot \text{H}_2\text{O}$ See **magnesium sulfate**

See Part 2: Fertilizer Materials

ki-koji A yellow koji from growth of *Aspergillus oryzae* See **koji**

kilderkin A cask that has an 18 gallon capacity

killie See **sprat**

killarney A cheddar-type cheese

kill-devil A rum

killer cell A cell that will kill other cells including tumor cells

killifish (*Oryzias latipes*) A food fish caught in Japan

killing fat Fat from the intestinal area, usually used in making soap

kilo- (k) A prefix for quantities 1000 times larger (10^3) than the base unit

kilocalorie [Calorie (Cal); kilogram-calorie (kg-cal); large calorie] A measure of heat, energy, work; the heat required to raise the temperature of 1000 g or 1 kg (2.2 lb) of water 1°C (1.8°F) or to raise 10 g (0.35 oz) of water from its melting point to its boiling point; heat needed to raise the temperature of 1 l of water from 14.5 to 15.5°C under normal atmosphere; the energy equivalent of food is usually given in kilocalories

1 kg-cal = 4.186×10^{10} ergs
 = 4186.17 joules (J; 1 J = 10^7 ergs)
 = 3087.77 foot pounds (ft-lb)
 = 1000 gram calories or small calories
 = 426.900 kilogram meters (kg-m)
 = 4.186 kilojoules (kJ)
 = 3.96832 British thermal units (Btu)
 = 0.001581 metric horsepower-hour (hp-h;
 1 hp-h = 75 kg-m-h)
 = 0.001559 U.S. horsepower-hour (hp-h)
 = 0.001163 kilowatt hour (kW-h)

4 kg-cal = 1 gram of protein
 = 1 gram of carbohydrate

9 kg-cal = 1 gram of fat
 3500 calories = 1 pound of body weight

Activity of 150 lb person	Calories per hour
Lying down or sleeping	80
Sitting	100
Driving an automobile	120
Standing	140
Domestic work	180
Walking, 2 $\frac{1}{2}$ mph	210
Bicycling, 5 $\frac{1}{2}$ mph	210
Gardening	220
Golf; lawn mowing, power mower	250
Bowling	270
Walking, 3 $\frac{3}{4}$ mph	300
Swimming, $\frac{1}{4}$ mph	300
Square dancing; volleyball; roller skating	350
Wood chopping or sawing	400
Tennis	420
Skiing, 10 mph	600
Squash and handball	600
Bicycling, 13 mph	660
Running, 10 mph	900

kilocalorie per minute (kg-cal/min) Thermo unit per minute; a measure of power, rate of energy, and heat

$$\begin{aligned} 1 \text{ kg-cal/min} &= 51.43 \text{ foot-pounds/second (ft-lb/s)} \\ &= 0.09351 \text{ horsepower (hp)} \\ &= 0.06972 \text{ kilowatt (kW)} \end{aligned}$$

kilocalorie per second (kg-cal/s) Thermal units per second; a measure of power, rate of energy, and heat

$$\begin{aligned} 1 \text{ kg-cal/s} &= 4186.17 \text{ watts (W; } 1 \text{ W} = 10^7 \text{ erg/s)} \\ &= 3087.77 \text{ foot-pounds per second (ft-lb/s)} \\ &= 426.900 \text{ kilogram meters per second (kg-m/s)} \\ &= 5.69200 \text{ metric horsepower (hp; } 1 \text{ hp} = 75 \text{ kg-m/s)} \\ &= 5.61412 \text{ U.S. horsepower (hp; } 1 \text{ hp} = 550 \text{ ft-lb/s)} \\ &= 4.18617 \text{ kilowatt (kW)} \\ &= 3.96832 \text{ British thermal units per second (Btu/s)} \end{aligned}$$

kilogram (kg; K.G.; kilo; kilogramme) A measure of weight

$$\begin{aligned} 1 \text{ kg} &= 1 \times 10^6 \text{ milligrams} \\ &= 15,432.35639 \text{ grains (gr)} \\ &= 1000 \text{ grams (10}^3 \text{ g)} \\ &= 771.6178 \text{ scruples [apothecary's (apoth.)]} \\ &= 643.01485 \text{ pennyweight (dwt)} \\ &= 564.38332 \text{ drams (avdp)} \\ &= 257.20594 \text{ drams (troy) (apoth.)} \\ &= 70.93 \text{ poundals (pd)} \\ &= 35.27396 \text{ avdp ounces (oz avdp)} \\ &= 32.150742 \text{ troy ounces (oz troy) or apothecary's ounces} \\ &= 10 \text{ hectograms (hg)} \\ &= 9.807 \text{ joules per meter (J/m; } 1 \text{ J/m} = 1 \text{ newton)} \\ &= 9.80665 \text{ dynes} \\ &= 2.6792285 \text{ troy pounds (lb troy) or apothecary's pounds} \\ &= 2.204622341 \text{ avdp pounds (lb avdp)} \\ &= 1 \text{ liter or cubic decimeter (dm}^3 \text{) of water at } 4^\circ\text{C (at } 45^\circ \text{ latitude and sea level)} \\ &= 0.09807 \text{ joules per centimeter (J/cm)} \\ &= 0.001102 \text{ net-short ton (1 net-short ton} = 2000 \text{ lb)} \\ &= 0.001 \text{ metric ton (1 metric ton} = 1000 \text{ kg)} \\ &= 0.0009842 \text{ gross-long ton (1 gross long ton} = 2240 \text{ lb)} \end{aligned}$$

kilogram calorie See **kilocalorie**

kilogramme See **kilogram**

kilogram-meter (kg-m) A measure of heat, energy, work

$$\begin{aligned} 1 \text{ kg-m} &= 9.807 \times 10^7 \text{ ergs} \\ &= 9.80597 \text{ joules (J; } 1 \text{ J} = 10^7 \text{ ergs)} \\ &= 7.23300 \text{ foot-pounds (ft-lb)} \\ &= 0.009296 \text{ British thermal units (Btu)} \\ &= 0.002342 \text{ kilocalories (kg-cal; thermal units)} \\ &= 0.000003704 \text{ metric horsepower-hours (hp-hr; } 1 \text{ hp-h} = 75 \text{ kg-m-h)} \\ &= 0.000003653 \text{ U.S. horsepower-hour (h.p.-h)} \\ &= 0.000002724 \text{ kilowatt hour (kW-h)} \end{aligned}$$

kilogram meter per second (kg-m/s) A measure of power, rate of energy, and heat

$$\begin{aligned} 1 \text{ kg-m/s} &= 9.80597 \text{ watts (W; } 1 \text{ W} = 10^7 \text{ erg/s)} \\ &= 7.23300 \text{ foot-pounds per second (ft-lb/s)} \\ &= 0.01333 \text{ metric horsepower (hp; } 1 \text{ metric hp} = 75 \text{ kg-m-s)} \\ &= 0.01315 \text{ U.S. horsepower (hp; } 1 \text{ U.S. hp} = 550 \text{ ft-lb/s)} \\ &= 0.009806 \text{ kilowatt (kW)} \\ &= 0.009296 \text{ British thermal units per second (Btu/s)} \\ &= 0.002342 \text{ kilocalorie per second (kg-cal/s; thermal units per second)} \end{aligned}$$

kilogram per cubic meter (kg/m³) A measure of density

$$\begin{aligned} 1 \text{ kg/m}^3 &= 1.68556 \text{ pounds per cubic yard (lb/yd}^3 \text{)} \\ &= 0.07769 \text{ pound per bushel (lb/bu; U.S.)} \\ &= 0.06242 \text{ pound per cubic foot (lb/ft}^3 \text{)} \\ &= 0.009711 \text{ pound per gallon (lb/gal), dry (U.S.)} \\ &= 0.008345 \text{ pound per gallon (lb/gal), liquid (U.S.)} \\ &= 0.0011 \text{ gram per cubic centimeter (g/cm}^3 \text{)} \\ &= 0.00003613 \text{ pound per cubic inch (lb/in.}^3 \text{)} \end{aligned}$$

kilogram per hectare (kg/ha) Weight per unit area

$$\begin{aligned} 1 \text{ kg/ha} &= 0.890 \text{ pound per acre (lb/acre)} \\ 100 \text{ kg/ha} &= 1.4869 \text{ bushels (60 pounds) per acre [bu (60 lb)/acre]} \end{aligned}$$

kilogram per meter

$$1 \text{ kg/m} = 0.672 \text{ pound per foot (lb/ft)}$$

kilogram per square centimeter (kg/cm²) A measure of pressure

$$\begin{aligned} 1 \text{ kg/cm}^2 &= 9.80665 \times 10^5 \text{ dynes per square centimeter (dyne/cm}^2 \text{)} \\ &= 2048.17 \text{ pounds per square foot (lb/ft}^2 \text{)} \\ &= 735.514 \text{ millimeters Hg (columns of mercury, Hg)} \\ &= 32.8083 \text{ feet water (columns of water, max. density at } 4^\circ\text{C, } 39^\circ\text{F)} \\ &= 28.9572 \text{ inches Hg (columns of mercury, Hg)} \\ &= 14.2234 \text{ pounds per square inch (lb/in.}^2 \text{; also psi)} \\ &= 10 \text{ meters (columns of water, max. density at } 4^\circ\text{C, } 39^\circ\text{F)} \\ &= 0.9807 \text{ bar} \\ &= 0.96778 \text{ atmosphere, standard (atm; } 1 \text{ atm} = 760 \text{ mm Hg)} \end{aligned}$$

kilogram per square meter (kg / m²)

$$\begin{aligned} 1 \text{ kg/m}^2 &= 98.0665 \text{ dynes per square centimeter (dyne/cm}^2 \text{)} \\ &= 0.2048 \text{ pounds per square foot (lb/ft}^2 \text{)} \\ &= 0.003281 \text{ foot (ft) of water} \\ &= 0.002896 \text{ inches (in.) of mercury} \\ &= 0.001422 \text{ pounds per square inch (lb/in.}^2 \text{; also psi)} \\ &= 9.807 \times 10^5 \text{ bars} \\ &= 9.678 \times 10^5 \text{ atmospheres (atm)} \end{aligned}$$

406 kilohm (kΩ)

kilohm (kΩ) 1000 ohms (Ω)

kiloline

1 kiloline = 1000 maxwells (Mx)

kiloliter (kl) A unit of metric volume

1 kl = 61,023.0 cubic inches (in.³)
= 1000 liters (l)
= 264.18 gallons (gal; U.S. liquid)
= 35.316 cubic feet (ft³)
= 10 hectoliter (hl)
= 1.308 cubic yards (yd³)
= 1 cubic meter (m³)

kilometer (km) A measurement of length

1 km = 1×10^6 millimeters (mm)
= 1×10^5 centimeters (cm)
= 39,370 inches (in.)
= 3280.83 feet (ft)
= 1093.61 yard (yd)
= 1000 meters (m; 1000 = 10³)
= 198.838 rods (rd)
= 0.62137 statute mile
= 0.53959 U.S. nautical mile

1 mile = 1.6093 kilometers

kilometer per hour A measure of velocity

1 km/h = 54.68 feet per minute (ft/min)
= 27.78 centimeters per second (cm/s)
= 16.67 meters per minute (m/min)
= 0.91134 feet per second (ft/s)
= 0.62137 mile per hour (mph)
= 0.53959 knot (U.S.)
= 0.27778 meter per second (m/s)

kilometer per hour per second (km/h-s) A measure of acceleration

1 km/h-s = 27.78 centimeters per second per second (cm/s-s)
= 0.91134 foot per second per second (ft/s-s)
= 0.62137 mile per hour per second (mi/h-s; mph-s)
= 0.27778 meter per second per second (m/s-s)

kilowatt (kW) A measure of power

1 kW = 1×10^{10} ergs per second (erg/s)
= 4.4254×10^4 foot pounds per minute (ft-lb/min.)
= 1000 Watts (W; 1000 W = 10⁷ erg/s)
= 737.612 foot-pounds per second (ft-lb/s)
= 101.979 kilogram-meters per second (kg-m/s)
= 56.884 British thermal units per minute (Btu/min)
= 14.34 kilogram-calories per minute (kg-cal/min)
= 1.35972 metric horsepower (hp; 1 metric hp = 75 kg-m/s)
= 1.34111 U.S. horsepower (hp; 1 U.S. hp = 550 ft-lb/s)
= 0.94796 British thermal units per second (Btu/s; thermal units per second)
= 0.23888 kilogram-calories per second (kg-cal/s; thermal units per second)

kilowatt hour (kW-h) A measure of energy, work

1 kW-h = 3.6×10^{13} ergs
= 3,600,000 joules (J; 1 J = 10⁷ ergs)
= 2,655,403 foot pounds (ft-lb)

= 859,850 gram calories (g-cal)
= 367,123 kilogram meters (kg-m)
= 3,412.66 British thermal units (Btu)
= 859.975 kilogram-calory (kg-cal; thermal units)
= 22.75 pounds of water raised from 60° to 212°F
= 3.53 pounds of water evaporated from and at 212°F
= 1.35972 metric horsepower-hours (hp (metric)-h; 1 metric hp-h = 75 kg-m-h)
= 1.34111 U.S. horsepower-hours (h.p.-h; U.S.)

kimaj A pocket, flat bread

kimbil A sorghum beer

kim chee Pickled, spiced, hot cabbage

kimchi (kimcki) Acidic, carbonated vegetables; spiced, pickled cabbage; fermented mixture of cabbage, cucumbers, garlic, onions, radish, red pepper, and often shellfish

kinda A type of dawadawa

kindabjugu A moist, cooked or uncooked, smoked Icelandic sausage made from coarsely chopped, mildly seasoned lamb with lamb fat added and stuffed into an artificial casing

kinetic In motion

kingfish A food fish similar to the mackerel but larger; contains less fat; lives in fresh and saltwater
Australian—Albacore
Indian Ocean—*Caranx* spp.

See **mackerel**

kingklip (*Genypterus capensis*) A food fish
See Part 2: Vitamin D, Fish

king mackerel (*Scomberomorus regalis*; *Sierra cavalla*) A finfish that has light meat and pronounced flavor See **mackerel**

king orange See **tangerine**

king pirate See **pike**

king's acre berry A hybrid of blackberry and raspberry

king (chinook) salmon (*Oncorhynchus tshawytscha*) A finfish that has a light meat and light to moderate flavor See **salmon**
See Part 2: Salmon and Trout

kinhwa A very prolific, black and white, lop-eared, pork and bacon pig from Chekiang province, China

kin-pan See **kumquat**

kinzanji miso A flavorful paste made from soybean; often mixed with cereals

kinzmarauli A red wine

kip The skin or hide from small or young animals

kipper Herring (or other fish) that are split, lightly salted, and smoked overnight
See Part 2: Fish, Smoke-Cured; Riboflavin, Food

kippered An adjective that denotes hot smoked, fish products

kipper snack Boneless kipper packed in their own bouillon

kip skin Calf skin weighing between 15 and 25 lb

Kirchner medium A microorganism media used for the propagation of *Mycobacterium tuberculosis*
See Part 2: Microorganism, Media

Kirin Black A prolific, prick-eared pig that has black and white points; found in northeast China and obtained from crossing Large White and Berkshire with native sows

kirmess (kirschwasser) A dry, colorless, cherry brandy

kirsch A clear brandy distilled from fermented, small, black cherries (*Prunus*)

kirschwasser A German, after dinner cordial

kirsebaerlikoer A brandy distilled from fermented cherries

kiselo mleko A yogurt made from cow's milk

kishk (kushuk) A dried mixture of fermented milk (2-3 parts) with cereal (1 part, normally wheat) See hamma

kiska An imitation, cooked sausage made from pork, oat groats, pork liver, pork spleen, salt, beef blood, and spices

kiskatom Hickory nut

kislav A brandy distilled from fermented watermelon

kisra (kesrah; ksra) A thin, flat, sorghum bread

kisra rhaheefa See kisra

kissingen A sparkling, astringent, natural, mineral water from Bavaria

kitanihon rice cracker A cracker usually made without sugar

kitataka A processed cheese made with ghee and sugar

kitron A citrus liqueur

kiu-ts'ai See kuchay

kiwi (Chinese gooseberry; *Actinidia chinensis*)
A subtropical, New Zealand, climbing vine that produces an edible fruit with a rough, green skin that turns brown and fuzzy; the flesh is light green, white in the middle, and has very small, black seeds; ripen at room temperature in a plastic bag; eaten when soft; cut in half and scoop out contents; do not eat skin

1 pound = 4 medium kiwi
= 2 cups, peeled, sliced, and halved

Composition: solids 21.8%; pH 4.0; acidity 1.7%; sugar 12.7%; nitrogen 0.3%; ash 3%; vitamin C 158 mg/100 g; carbohydrate 15.6%; protein 1.3%; fat 0%

Storage: refrigerate; at 1°C will keep for weeks See Chinese gooseberry; kiwifruit

kiwifruit (Chinese gooseberry) An egg sized and shaped (oval), fuzzy, brown fruit; has emerald-green flesh with tiny, black, edible seeds, a strawberry-melon flavor, and a sweet, tart taste; high in vitamin C; ripen at room temperature

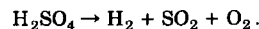
Storage: store ripe fruit in refrigerator; can be frozen See Chinese gooseberry; kiwi

kiwi, yangtato (*Actinidia chinensis*) A warm temperature vine that produces an edible fruit; variety hayward

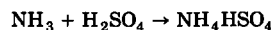
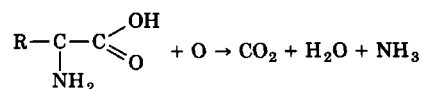
kjargaard A hard Danish cheese made from skimmed milk with rennet added

Kjeldahl (1849-1900) A Danish chemist who developed a method of determination of nitrogen that bears his name

Kjeldahl determination A determination of total nitrogen by oxidizing the carbon and hydrogen and converting the nitrogen into ammonium sulfate; sulfuric acid is the oxidizing reagent;



Sodium or potassium sulfate raises the boiling point and thus aids in the oxidation; copper sulfate acts as a catalyst:



Concentrated NaOH is then added and the ammonia is liberated and collected in a standard acid; from the amount of acid neutralized the ammonia nitrogen and crude protein (N × 6.25) can be calculated

kjotbuingur A moist, cooked, unsmoked Icelandic sausage made from finely chopped, medium seasoned, beef and pork with pork fat added and stuffed into an artificial casing

KKCF Kidney knob and channel fat (averages 3.75% of the carcass; range 2.5-5%)

KL Microorganism media used for the serological identification of *Corynebacterium*
See Part 2: Microorganism, Media

klamath weed A plant having a toxic principle
See Part 2: Poisonous Plants

Klebsiella A nonmotile genus of plump, short rods with rounded ends usually found in the respiratory or intestinal tract; some are pathogenic
See Part 2: Microorganism, Media; Microorganism Reactions on Differential Tube Media

klekowatch A type of gin

klencz cheese (Brinsen) A cheese made from sheep's milk with rennet added

kligler iron agar See Part 2: Microorganism, Media; Microorganism Reactions on Differential Tube Media

klip (klipfish) Cut, salted, smoked cod

kloster cheese A soft French cheese made from whole milk with rennet added

klosterkase A soft to semisoft cheese made from cow's milk that is strongly flavored and ripened by surface bacteria

kmag A pocket, flat bread

knackebrod A large (10-in. diameter), round, thin, Scandinavian, "hard tack"-type bread made from whole-rye meal

knackebrot A whole meal, wheat or rye crispbread

knacker 1) A moist, uncooked, smoked eastern German sausage made from coarsely chopped, heavily seasoned, pork and stuffed into a pork or artificial casing. 2) A moist, cooked, smoked Swiss sausage made from finely chopped, medium seasoned, beef, pork, and veal and stuffed into a pork or sheep casing. 3) A moist, cooked, smoked Irish sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into a pork casing. 4) A finely chopped, cooked, smoked or unsmoked, American sausage; available in medium to large diameter links or large diameter casing for slicing

knackwurst (garlic sausage; knoblauch; knockwurst) 1) A German, beef and pork sausage formulation similar to bologna; no blinders are added and garlic, coriander, and nutmeg are used in the flavoring; stuffed in large casings and linked every 4 inches. 2) A finely chopped, cooked, smoked or unsmoked, American sausage; available in medium to large diameter links or large diameter casings for slicing; ingredients similar to franks and bologna but with a strong, garlic flavor. 3) A moist, cooked, unsmoked, Australian sausage made from finely chopped, medium seasoned, pork with chunks of cheese added and not stuffed into casings. 4) A "plump," linked sausage made of pork and beef and spicier than a frankfurter; fully cooked, but usually served hot. 5) A moist, cooked, unsmoked or smoked Austrian sausage made from finely chopped, mildly seasoned (nitrite) beef and pork and stuffed into a beef casing with a diameter of greater than 30 mm
Composition: moisture 55.5%; protein 12%; fat 27.7%; carbohydrate 1.7%; ash 3.1%

See Part 2: Sausage Identification

knakk A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into a pork or artificial casing

knakworst A moist, cooked, smoked Dutch sausage made from finely chopped, medium seasoned, beef and pork and stuffed into a pork, sheep, or artificial casing or not stuffed into a casing

knaost (olomoucky; pultost) A strongly flavored, semisoft to semihard, acid (sour) curd, Norwegian cheese made from cow's milk with rennet added and flavored with caraway seed

knead To work dough or similar semisolid mixture, either by hand or in a machine with revolving agitator blades until it is smooth, pliable, light, and springy; for example, in bread to combine water and flour protein to form gluten

See Part 2: Margarine Production

knee Hinge joint between tibia and femur
See Part 2: Bone

kneecap Patella

kneeing ability The capacity of deep water plants to become erect after being in a horizontal position

knepe See *mamoncillo*

knob celery See *celeriac*

knoblauch See *knackwurst*

knoblauchbruhwurst A moist, cooked, smoked eastern German sausage made from medium chopped, heavily seasoned beef and pork and stuffed into a pork casing or not stuffed into a casing

knoblauchrohwrurst A moist, uncooked, smoked, eastern German sausage made from medium chopped beef and pork

knoblauch sausage See *knockwurst*

knocked-down flange A false seam in which the body flange is bent against the body without engaging the cover hook

knocking The process of stunning an animal to render it insensible prior to slaughter

knockwurst (knoblauch sausage) A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned (garlic) beef and veal and stuffed into a 1½-in. pork, sheep, or artificial casing; sodium content 687 mg/link (68 g)

knol-kohl See *kohlrabi*

knot A measure of speed

1 knot = 6076 feet per hour (ft/h)
= 2027 yards per hour (yd/h)
= 51.44 centimeters per second (cm/s)
= 1.852 kilometers per hour (km/h)
= 1.688 feet per second (ft/s)
= 1.151 statute miles per hour
[mi (statute)/h]
= 1 nautical mile per hour
[mi (nautical)/h]

knotroot See *artichoke, Japanese or Chinese*

knotted wrack (*Ascophyllum nodosum*) A brown, algae seaweed used for livestock feed and the production of alginates used for thickening, emulsification, and food film formation

knuckle (tip) 1) A meat cut made up primarily of quadriceps muscles (face of the round or sirloin tip) cranial to the femur; often made into dried beef. 2) Ankle joint in pork or veal See also *sirloin*

See Part 2: Beef, Boneless Cuts; Beef Round, Bone Structure; Beef Round Cuts; Meat Identification

knyszynska A semidry, uncooked, hot smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into a pork or artificial casing

koami A fish sauce made from shrimp (*Mysis*)

koa sarn See *granulation*

kobasica domaca A moist, uncooked, unsmoked Yugoslavian sausage made from medium chopped, medium or heavily seasoned pork and stuffed into a 62–65-mm beef or pork casing or not stuffed into a casing

kobasica ekstra A moist, cooked, smoked Yugoslavian sausage made from finely chopped, mild or medium seasoned, beef and pork and stuffed into a 59-mm beef or artificial casing

kobasica govedja A moist, cooked, smoked Yugoslavian sausage made from medium chopped, mildly seasoned, beef and stuffed into a 52-mm beef or pork casing

kobasica kranjska A moist, cooked, smoked Yugoslavian sausage made from medium chopped, mildly seasoned, pork and stuffed into a 49-mm sheep casing

kobasica lovacka A moist, cooked, smoked Yugoslavian sausage made from medium chopped, medium seasoned, beef and pork and stuffed into a 51-mm beef, pork, or artificial casing

kobasica pariska A moist, cooked, smoked Yugoslavian sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into a 59-mm beef or artificial casing

kobasica sremska A dry, uncooked, smoked Yugoslavian sausage made from coarsely chopped, heavily seasoned, pork sausage that is fermented and stuffed into a 35–41-mm pork casing

kobasica tirosska A moist, cooked, unsmoked Yugoslavian sausage made from medium chopped, mildly seasoned, pork and stuffed into a 48-mm artificial casing

kobe A variety of lespedeza

kobe beef (high quality beef; super beef) Thin-sliced, choicest cuts of the best carcasses; the slow growing cattle are massaged and fed secret rations

kobi Dried fish, usually *Tilapia*

kobisca A medium to coarsely chopped, cooked, smoked or unsmoked American sausage; available in large diameter links, rings, or large diameter casings for slicing

koch A baked product or dried flour produced from the fermented pseudostem of ensete or false banana

kochia (*Kochia scoparia*) An annual weed

kochmettwurst A moist, cooked, smoked eastern German sausage made from medium chopped, medium seasoned beef and pork and stuffed into an artificial casing

Koch, Robert The German physician who indicated that diseases were caused by microorganisms

kochsalami 1) A dry, cooked, smoked eastern German sausage made from coarsely chopped, medium seasoned pork and stuffed into a beef, pork, or artificial casing. 2) A cooked, smoked, and semidried, fermented sausage made from coarsely chopped, heavily seasoned beef and/or pork; 50–70-mm diameter. 3) A semidry, cooked, smoked Swiss sausage made from fine, medium, or coarse chopped, medium seasoned beef and pork and stuffed into a beef, pork, or artificial casing or not stuffed into a casing

kochuman A flavorful paste made from soybeans mixed with rice and mustard

kochwurst A finely to coarsely chopped, cooked, smoked or unsmoked, American jellied and/or specialty sausage; available in links, loaves, or canned

koeksister A wheat flour doughnut

kofta A meatball

kofta Meat rissoles

kohlrabi (brassica; cabbage turnip; knol-kohl; turnip cabbage; *Brassica oleracea* var. *caulorapa* and *gongylodes*) A cabbagelike, sulfur-containing plant with a pale green, swollen base that looks like a turnip; base size averages 3 in.; can be as large as a grapefruit, but preferred size for best eating is that of an orange; the stem is utilized (raw, steamed with butter, or cooked in broth) as a cooked vegetable or sliced for salads; also used as livestock feed; young leaves used like greens or spinach; winter vegetable between a turnip and cabbage; 8000 seeds/oz; thin to 6–12 in. in rows 24 in. apart;

matures in 60 days; harvest when stem is 2–3 in.; yield 1 bu/50 ft row

Color: green, purple, white

Kohlrabi variety	Season from seed	Use	Size	Color
Early Purple Vienna	60–63 days	Salads, cooked	Flat globe	Purple skin, green-white flesh
Early White Vienna	50–70 days	Fresh, freezing	2 in. round	Light green, white flesh
Erfurt				
Grand Duke Hybrid	Early, 45 days	Bulbs and tops eaten	4 in. round	Blue-green
Prima Hybrid	Early, 50 days	Raw, cooked	2 in.	Pale green

Composition (raw stem): moisture 90%; protein 2%; fat 0.1%; carbohydrate 7%; ash 1%

Storage: refrigerate in a plastic bag, 32°F, 90–95% relative humidity, 1–3 weeks storage life; also store in pits or cold cellars

See Part 2: Minerals, Food; Planting Density; Storage; Sugar; Vegetables; Vegetable Composition; Vegetable Cooking; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables Classification; Vegetables, Cooking Frozen; Vegetable Yields

koikuchi shoyu A soy sauce made with 50% wheat

koji A molded, cooked cereal that is a source of enzymes and substrate for fermented mirin, miso, sake, and soy sauce

kokiano A dessert wine

kokja A rice wine

kokkineli A resinated, rosé wine

koko A sour, cereal (maize, millet, or sorghum) porridge

kokonte A porridge paste made from cassava tubers that have not soaked in water

kokt kjottpølse A moist, cooked, unsmoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork and stuffed into a beef casing

kokt medister A moist, cooked, unsmoked Norwegian sausage made from finely chopped, mild seasoned beef and pork and stuffed into a beef casing

kokui Acidic, maize-flour (80% extraction) dumpling

kola See **cola**; **kola nut**

kolach (kalac; kalach; kolachy) A Bohemian yeast bread containing a fruit filling See **kolachy**

kolachy A bun filled with prune, apricot or cottage cheese See **kolach**

kola nut The seed of the *Sterculiaceae* tree
Varieties: *Cola nitida* (large nuts); *Cola acuminata* (small nuts) See also **kola nut extract**

kola nut extract (guru nut) 60% alcoholic extract of nuts; used in soft drink industry; beverage contains 120 ppm of extract; also used as a flavoring agent for food; contains caffeine

kolatchen A sour-cream yeast biscuit

410 kolbarsy

kolbarsy *See* **kielbasa**

kolbasa *See* **kielbasa**

kolbase *See* **kielbasa**

kolbassie (kielbasa) A cooked, smoked, and cured, Polish sausage made from pork and beef seasoned with pepper, garlic, salt, sugar, and thyme.

See Part 2: Sausage Nutritive Value

kolbasz A beef and pork salami

kol-bee A loaf-shaped gouda-type cheese

kolbse, Hungarian A cooked, smoked sausage made from finely ground, cured beef and pork with seasonings and stuffed into casings

koligu A type of dawadawa

kolofer A beef and pork salami

kolos-monostor cheese A cheese made from sheep's milk with rennet added

kolosvarer cheese A cheese made from buffalo's milk

kolska A moist, cooked, unsmoked Polish sausage made from medium or coarsely chopped, medium seasoned meat and stuffed into an artificial casing

kolypeptic *See* **colypeptic**

kombu A seaweed used in soup and for seasoning *See* **konbu**

kombucha Teekvass

kome koji Rice koji *See* **koji**

kome miso A flavorful paste made from soybean mixed with milled rice

komi An acidic, whole-meal, maize dumpling

kominje A semihard, reduced fat cheese made from cow's milk; usually wheel-shaped; sometimes flavored with cumin, clove, or caraway seed

komovica A brandy distilled from fermented grape skins

komposta lampa grand bretagne Orange compote

konbu (kombu) A seaweed; kelp family

kondowole A porridge or paste made from cassava flour, sometimes with maize added

kong-chai A pickled, Chinese cabbage

kongo A sorghum beer

konigskase A creamy, semisoft, mild-flavored cheese made from cow's milk and ripened by surface bacteria

koniki An herb-flavored, low alcohol, citrus liqueur

konjac A brandy distilled from fermented grapes

konya A sorghum beer

koobi *See* **kobi**

kook Soup

kookwurst A moist, cooked, smoked Australian sausage made from finely chopped, medium seasoned beef and stuffed into artificial casings

Kool-Aid A General Foods drink mix
1 cup, prepared = 9.3 oz
sugar 6 tsp/8 oz

kopanisti A blue feta cheese made from cow's or sheep's milk

koppen A sour, pungent cheese made from goat's milk *See* **bauden**

koppen cheese A sharp cheese made from goat's milk

Korean A variety of lespedeza

kori todū *See* **tofu**

korn A schnapps-type spirit made primarily from rye

korn dog *See* **corn dog**

kornlet *See* **fritterkorn**

korovai A white, wheat bread

korv Sausage

korzh A white, wheat bread

kos Yogurt

kosenkorva A schnapps-type spirit

koser citrate medium A medium used to grow coliform organisms

See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

Kosher (kasher) A Hebrew term for ritually clean foods; fit; proper; prepared according to Jewish dietary laws; to kosher is to salt and soak meat or poultry to remove the blood; ritualistic slaughter *See* **glatt kosher**; **Judaism**, **dietary rules**

Kosher, glatt Beef carcasses in which the lungs are free of adhesions

Kosher salami An all-beef, cooked salami that contains mustard, coriander, and nutmeg in addition to regular spices *See* **salami**, **cotto**

Kosher salt *See* **salt**, **flake**

Kosher stick Cutting the throat just back of the jaw

kostromskoy A gouda-type cheese

kota kapama Braised chicken in tomato and cinnamon sauce

kotimainen meetwurst A coarse salami made from beef, pork, and sometimes horse meat

kottkorv A moist, cooked or uncooked Swedish sausage made from fine or medium chopped, mildly seasoned beef and pork and stuffed into a beef, pork, or artificial casing

Composition: moisture max. 65%; fat max. 23%; binder max. 3%

koumiss (coomys; koumyss; kumiss) Fermented, mare's milk; double lactic and alcoholic fermentation; sometimes made with the milk of an ass, camel, or cow *See* **kumiss**

koumoui A clear, mildly alcoholic, sorghum beer

kouron Sour, sorghum or millet porridge

kow yuk Pork cooked in soy, spice, and honey sauce

koya dofu *See* **tofu**

KP organic acid base *See* Part 2: Microorganism, Media

kpalugu A type of dawadawa

kpata A sorghum beer

kpeyer Germinated, dried grains of sorghum; used as malt for sorghum beer

kpokpogari Shallow-oil-fried gari

kpokpoi Small (2–3 mm), steamed, fermented balls of maize or yam flour often mixed with red palm oil

Kr Symbol for the element krypton

kra-chae A rice wine

kraft paper General-purpose paper manufactured from pine pulp (sulfate pulp); it is strong and relatively cheap; it is the highest tonnage paper produced in U.S.

krainer A pork pepperoni 1) A dry, uncooked, smoked Irish sausage made from coarsely chopped, heavily seasoned pork and fermented and stuffed into artificial casings. 2) A semidry, cooked, smoked Austrian sausage made from coarsely chopped, heavily seasoned (nitrite) pork and beef and stuffed into pork casings with a diameter of less than 30 mm

krainsky A semidry, cooked, smoked Australian sausage made from coarsely chopped, heavily seasoned (garlic) beef and pork; not put into a casing

krjana, chopped A moist, cooked, smoked Polish sausage made from medium chopped, medium seasoned pork and stuffed into an artificial casing

krakauer 1) A moist, cooked, smoked or unsmoked Austrian sausage made from coarsely chopped, medium seasoned (nitrite), beef, lamb, and pork and stuffed into artificial casings with a diameter of greater than 60 mm. 2) A moist, cooked, Australian sausage

krakauer bruhwurst A dry, cooked, smoked eastern German sausage made from coarsely chopped, medium seasoned beef and pork and stuffed into a beef, pork, or artificial casing

krakow A cooked sausage similar to a berliner; a medium to coarsely chopped, cooked, smoked or unsmoked American sausage available in large diameter links, rings, or large diameter casings for slicing

krakowska A garlic pepperoni made from pork or pork and beef

krakowska parzona A semidry, cooked, double-smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into a beef casing

krakowska sucha A dry, cooked, double-smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into a beef casing

krakus Vodka

krambambuly Angelica (*Archangelica*) liqueur

Kramwiede agar See Part 2: Microorganism Reactions on Differential Tube Media

kranawitter A type of gin

krapfen A jam-filled, wheat flour doughnut

K ration A military ration consisting of a 32-oz, three-meal concentrated food package (3726 calories); pocket-size and easy to carry;

Example of components: pemmican canned cheese, veal loaf, ham spread, malted milk tablets, candy bars, bouillon cubes, and soluble coffee

kraut Sauerkraut

See Part 2: Vegetables, Canning Dates

krauterkäse See glarner

kreas Meat

Krebs cycle (citric acid cycle; TCA cycle) A metabolism cycle in which pyruvic acid in the presence of O₂ is broken down into carbon dioxide and water See also **citric acid**

Kreis test A test for oxidative rancidity in fats

kreivi A tilsit-type cheese

kremstaler A soft to semisoft, strongly flavored cheese made from cow's milk that is ripened by surface bacteria

krendel A rice and wheat flour bread that is rich in eggs and fat; sometimes contains dried fruit

krepkaya A highly alcoholic vodka

kreuznacher A white wine

kriek A blend of 1 kilo of cherries and 5 liters of beer

krieken lambic A strong, sour, cherry-flavored, alcoholic beer

krill A saltwater, shrimplike crustacean; whale food; a pale pink to brick red crustacean that resembles a small shrimp; a plankton feeder; lives primarily in Antarctic waters

Types:

Antarctic—*Euphausia superba*

Atlantic—*Meganyctiphanes nervegica*

North Atlantic—*Thsandoessa inermis*

Medium size krill are 45–60 mm in length and weigh 0.6–1.5 g

1300–7500 krill = 1 kg

	Composition			
	Moisture (%)	Protein (%)	Fat (%)	Ash (%)
Cooked	78–80	12–14	2–4	3–4
Meal	3–4	52–59	6–24	12–13
Protein concentrate	9.5	74	0.3	15.4
Raw	77–81	11–16	1–4	2–4

kronenquelle Alkaline, lithia water

krupnick A liqueur flavored with honey

krusten A wheat bread with some rye

krvavica A moist, cooked, unsmoked Yugoslavian sausage made from coarsely chopped, medium-seasoned, beef and pork and stuffed into a 66–75-mm beef, pork, or sheep casing

kryddersild Pickled herring

kryddost An open-textured, cheddar-type cheese with cumin seed

krypton (Kr) A gaseous element; at. no. 36; at. wt. 83.80; noble gas group of Periodic Table; oxidation state 0; electron configuration 2–8–18–8 orbit K L M N

ksara See **kisra**

kubz A flat, pocket bread

kuchay (kiu-ts'ai) An oriental variety of garlic; the cloves, leaves, and flowers are used

Kuche Fat-tailed sheep used for pelts, wool, and mutton; fleece (coarse carpet) is black, white, brown-gray, and multicolored; most are polled; found in Sinkiang (Xinjiang, north west China) area

kude A sorghum or millet, thick porridge, gruel containing cassava flour

kudzu (fan-kot; puero; *Pueraria phaseoloides* or *thunbergiana*) A starchy root; runners up to 50 ft long; a perennial plant that is used to reclaim gullies and wasteland; pH 6.0

See Part 2: Seed, Germination

kufa A type of chicha

kugelhof An open-textured sponge cake

kujawska A semidry, cooked, double-smoked Polish sausage made from finely chopped, medium seasoned beef and pork and stuffed into an artificial casing

kulat jerami A straw mushroom

kulcha A flat, leavened (using yogurt as a starter) pocket bread

kulebyaka A fish-filled, fried, wheat-flour dough pie

kulen A pork pepperoni; a dry, uncooked, smoked Yugoslavian sausage made from coarsely chopped, heavily seasoned, pork that is fermented and stuffed into a 35–41-mm pork or artificial casing

kulich A bread containing almonds and colored yellow with saffron

kulm A creamy, mild-flavored, semisoft cheese made from cow's milk and ripened by surface bacteria; usually 2-kg wheels

kumbach cheese A soft, German cheese made from whole or partially skimmed cow's milk with rennet added

kumiss (koumiss; kumys; milk wine) An acidic, alcoholic horse's, donkey's, or camel's milk; a fermented, mare's milk drink

Procedure:

1. Heat whole cow's or mare's milk to 92°C for 5 min
2. Cool to 26°C
3. Add starter at 10–30% of *Kluyveromyces lactis*, *Lactobacillus acidophilus*, *L. bulgaricus*
4. Final product
 - Type A: lactic acid 0.6%; alcohol 0.7%
 - Type B: lactic acid 0.8%; alcohol 1.1–11.7%
 - Type C: lactic acid 1%; alcohol 1.7–2.5%

See **koumiss**

kummel A digestive drink flavored with caraway seed (*carum carui*), cumin (*Cuminum cyminum*), and fennel (*Foeniculum vulgare*); a white, caraway-seed- and cumin-flavored, digestive liqueur that has variable sweetness

kummel eckau A potent (50% alcohol), white, Russian, alcoholic beverage and flavoring

kummelkäse A semihard, reduced fat cheese made from cow's milk and flavored with caraway seed; usually wheel-shaped

kummelwurst (carawaywurst) A cooked, ring sausage containing caraway seed

kumquat (cumquat; kin-pan; *Citrus aurantium*; *Fortunella japonica*) A fruit produced by a shrub or small tree and resembling a small (plum size; 1 in.), oblong orange (deep orange color) with a thick to thin orange skin; not a citrus; the pulp has an acid taste; the entire fruit including rind and skin (but remove seeds) may be eaten raw or used in salads, for pickling, candy, marmalade, and preserves; source of vitamin C

Variety: Nagami

Composition (raw): moisture 81%; protein 1%; fat 0.1%; carbohydrate 17%; ash 0.6%

Storage: refrigerate; 1 month storage life See **cumquat**

See Part 2: Fruit Classification; Minerals, Food

kumu A fish similar to bass

kumys An alcoholic beverage prepared from fermented, mare's milk; a fermented, alcoholic, milk beverage See **kumiss**

kung chao A fermented, salty, paste condiment made from shrimp (with added color)

kung chom A salty, fermented, paste condiment made from shrimp

kung-som A salty, fermented, paste condiment made from shrimp

kunnu tsaki A sorghum beer

kuo mo A button mushroom

Kupferberg Media used for the isolation and propagation of *Trichomonas*
See Part 2: Microorganism, Media

kurini cheese (eriwani) A Russian cheese made from sheep's milk

kurisi A dried fish (*Holocentrum*)

kurrat An onionlike plant closely related to the leek

kurrol's salt See **sodium phosphate**

kurt See **karut**

kurunga A sour, diluted milk

kurut Dried, hard spheres of fermented milk or milk curds

kusei A panir-type cheese

kushuk A parboiled ferment of wheat and turnip See **kishk**

kutira gum See Part 2: Gum Distribution

kuva An alcoholic beer made from beans

kvas (kuass; kwas) A sour, alcoholic beverage made from rye (*Secale cereale*) or rye and wheat See **kvass**

kvass An intoxicating Russian beverage made from rye flour, malt, and mint

kwan A unit of weight used in Japan and Republic of Korea

1 kwan = 0.00375 metric ton

Kwangsi cattle Small, brown and roan, Zebu-type, draft cattle; originated in Kwangsi province, China

Kwangtung A slightly brownish, light gray, draft and milk-producing, water buffalo; originated in Kwangtung province, China

Kwangtung pig Prolific, black and white, lop-eared, sway back, pork and lard pigs with sagging bellies; found in northern Kwangtung, China

Kwangtung Zebu Yellow to brown to gray, thoracic-humped draft cattle; originated in Kwangtung province, China

kwas *See* **kvas; kvass**

kwashiorkor A severe form of protein-calorie malnutrition appearing mostly in young children during or after weaning; some or all of the following signs

appear; anemia, arrested growth, dermatosis, diarrhea, edema, enlarged liver, hair changes, mental apathy, misery, and muscle wasting

Kweichow cattle Yellow, prominently humped draft cattle; originated in Kweichow (south central) province, China

Kweichow pig Black and white, white, or black, sway back pigs with short snouts; found in Kweichow province, China

kwete A clear, mildly alcoholic, millet and maize beer

kwon A sorghum or millet, thick, porridge gruel

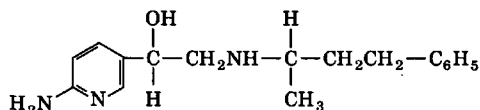
kyloes *See* **west highland**

kyoku-shi *See* **koji**

L

- L** Designates the left-handed (levo-) enantiomer (optical isomer) of a compound containing an asymmetric carbon atom; it indicates only the structure of the compounds, *not* its optical rotation. *See also* **D**; **enantiomer**; **optical isomers**

L-640,033



A beta-agonist that is orally active

La The symbol for the element lanthanum

laap ch'eung A fermented, semidry sausage made from pork or beef

laban A type of cheese or curdled milk; a type of kefir

laban hamid Buttermilk

laban khad Buttermilk

laban matrad A type of kefir; also used to make a white, brined cheese

laban rayeb *See* **laban matrad**

laban zabadi A yogurt made from buffalo's milk, cow's milk, or mixed milks

laban zeer A type of kefir stored in earthenware pots

labdanum oil A volatile oil obtained by steam distillation of the gum of *Cistus ladaniferus*; used as a flavoring agent in food; sp. gr. 0.905–0.994

Storage: full, tight, glass container in cool, dark place

label Written, printed, or graphic matter on or affixed to the container of a commodity

Requirements:

- Identity and characteristics of the product
 - Identity of the food (on the principal display panel); the true name of the product
 - Form of food, e.g., whole or sliced
 - Common or usual name
 - Percentage of characterizing ingredient
 - Common name of each ingredient, in descending order by weight
- Identification of food to be prepared from the product and a statement of ingredients that must be added
- Quantity of product
- Inspection legend
- Nutritional contents
- Net weight (including liquid in canned products)
- Name, place of business, and zip code of manufacturer, packer, or distributor
- Ingredients, in descending order by weight

See Part 2: Beans, Peas, and Lentils Label; Cheese Label; Egg Quality and Size Label; Fruit Inspection Labels; Fruit Label; Meat Label; Nutritional Labeling

label layout Physical measurements to guide label design

labile Unstable

Labitae The mint family

lablab (bonavist bean; hyacinth bean; lubia; Dolichos lablab) A legume that produces white, reddish, black, or mottled seed; the young pods are boiled and eaten, the ripe seeds are used for split pulse (cooked) and the foliage for livestock feed and hay.

labna (labneh; labnye) A panir-type cheese made from goat's milk and coated with olive oil and paprika

labnye *See* **labna**

laboratory table top dressing A formula that is composed of 600 cc raw linseed oil, 30 cc glacial acetic acid, and 2700 cc spirits of turpentine; allow 2 weeks for drying.

la bouille A semisoft, mild, double-cream, white, mold-covered cheese made from cow's milk; a Normandy cheese

lacceroic acid *See* Part 2: Saturated Fatty Acids

lace bug *See* **walnut lace bug**

lacewing *See* **aphid lion**

Lachryma Christi (Lacrima Christi) A dry white Italian wine grown near Vesuvius; a dry, white or red, sweet Italian wine produced near Naples

lachs(s)chinken A meat product made by placing two boneless, cured pork loins in a casing and smoking; may or may not be cooked; pork loin wrapped in a thin layer of bacon fat and hand-tied, mildly cured, and lightly smoked; smoked pork loin wrapped in bacon

lacinate Leaves that are deeply cut into narrow lobes

Lacombe A breed of hogs
See Part 2: Swine Breeds

lacquer A liquid that contains cellulose esters or ethers that form a film; dries by evaporation of a solvent

lactalbumin A protein found in milk, in which it aids in stabilization of the fat particles; it begins to coagulate at 65.6°C.

See Part 2: Milk, Amino Acids

lactase A carbohydrate digestive enzyme that catalyzes hydrolysis of lactose to glucose and galactose

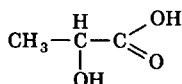
lactated mono-diglyceride Used as a food emulsifier or stabilizer

Storage: well-closed container

lactation The secretion of milk from the mammary glands of the female, especially during the period immediately following parturition

See Part 2: Food, Water Intake; Milk, Mammals, Composition

lactic acid (dextrolactic acid; α-hydroxypropionic acid; sarcosolactic acid)



The acid in sour milk (by fermentation of lactose), sauerkraut, silage, and pickles; also found in muscle after work and after death (responsible for lowering the pH of meat post mortem); a widely distributed asymmetric acid used as a food additive (as an acidulant, a flavoring, and a preservative) in beverages, cheese, frozen desserts, and olives; it can be made by hydrolysis of lactonitrile or by fermentation of dextrose.

Storage: tight container

See Part 2: Concentrated and Dried Milk Products; Concentration of Commercial Strengths of Acids and Bases; Cultured Dairy Products, Composition; Fluid and Fermented Milks, Composition; Milk, Dry Products; Normal Solutions; Thermophiles

lactic curd cheese A panir-type cheese made from cow's milk

Lacto A frozen dessert made from cultured milk, eggs, sugar, and usually flavoring

Lactobacillus A genus of gram-positive, non-spore-forming, rod-type microorganisms that cause fermentation spoilage in foods and greening in cured meats; *lactobacilli* produce 2–4% lactic acid and are used in fermented milks and cheeses.

See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Spoilage, Carbohydrate Foods; Spoilage, Protein Foods; Thermophiles; Water Activity, Organisms and Food

lactofil A thick, ropy, low- to medium-acid (pH 4.4–4.7), fermented cow's milk

lactoflavin (lactochrome) See **riboflavin**

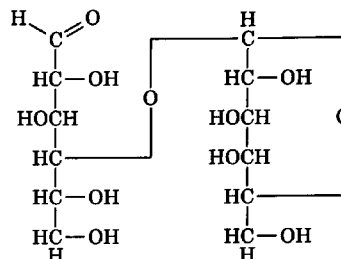
lactogenesis The initiation of lactation

lactometer (galactometer) A floating instrument similar to a hydrometer used to measure specific gravity of milk

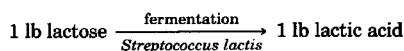
Lactosaprophiticus A microorganism that causes food spoilage

See Part 2: Spoilage, Fat in Food

lactose



Milk sugar that yields D-glucose and D-galactose on hydrolysis; occurs only in the milk (4–7%) of mammals; the alpha form is 16% as sweet as sucrose and is obtained from whey during cheese or casein manufacture. Lactose is used as a nutrient, sweetener and humectant, and is added to milk that is to be soured.



See Part 2: Concentrated and Dried Milk Products; Creams, Butter, and Frozen Desserts; Dairy Products, Composition; Fluid and Fermented Milks, Composition; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Products; Milk, Dry Products; Milk, Mammals, Composition; Milk, Species; Sweetening Compounds

lactose broth A medium used in presumptive tests for the coliform (*Escherichia* spp. and *Aerobacter* spp.) group by the production of gas

See Part 2: Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods

lactose intolerance Occurs in individuals who do not have lactase (the enzyme that aids in milk-sugar digestion), which causes bloating and diarrhea

lactylated fatty acid esters of glycerol and propylene glycol Used as food emulsifiers, plasticizers, stabilizers, surface-active agents, or whipping agents

Storage: well-closed container

lactylic esters of fatty acids Used as food emulsifiers or surface-active agents

Storage: tight, plastic-lined container in a cool, dry place

lactylic stearate Used in bakery products to promote freshness, to add size, and to make the product less sticky

ladino clover A type of large, white clover that is a perennial legume used for pasture and that presents a bloat hazard with a lush spring

Approximate amount of nutrients used for 3 tons of grazing: N 175 lb; P₂O₅ 54 lb; K₂O 140 lb

ladle A large spoon in the form of a hollow hemisphere, usually with a long, curved handle, used for serving soups, stews, and similar dishes

See Part 2: Ladle Size

lad's love See **southerwood**

416 lady beetle

lady beetle The adult insect is shiny red or tan (some with black spots), oval, and approximately $\frac{1}{4}$ in. long; the larva is blue, orange, or gray, carrot-shaped, warty, and $\frac{1}{16}$ – $\frac{1}{4}$ in. long. They feed on aphids, spider mites, scales, and mealy bugs.

lady finger 1) A small, finger-shaped, sponge cake. 2) A common name for okra

ladyfish (*Elops saurus*) A food fish

lady's smock See **crass, meadow**

Lafayette See **spot**

lafi Strong-flavored, dried, salted fish that are used as flavoring

LAFTA Latin American Free Trade Association

lafun A porridge or paste made from cassava, yam, unripe-banana, or plantain flour

L agar See Part 2: Microbiological Media

lagbi 1) The sap from the stem of a palm; it is often fermented. 2) A sweet, cloudy white wine made from date-palm sap

lager 1) In beer manufacturing, the aging, clarification, and carbonation process. 2) A clear, golden, gassy, alcoholic beverage made from cereal extract by bottom fermentation See **pale ale**

Lago di Caldaro An area in Italy that produces red wine

lag phase A stage of bacterial growth during which the cells increase in size but not in number

laguiole A cheese made from cow's milk See **fourme de Laguiole**

laguiole cheese A hard French cheese made using rennet

lahora bi ageen A pizza bread with minced meat, tomato, and onion

lait Milk

lake A pigment made by precipitating an oil-soluble organic dye on an inorganic substrate, e.g., alumina on aluminum hydroxide; lakes color food by dispersion. See also **colorant**

lake chub A finfish with light meat and light to moderate flavor

lakefish See **lake herring**

lake herring (chub; cisco; grayback; green-back; lakefish; tullibee) A small (avg. 1 lb), North American, freshwater finfish found in the Great Lakes that is used for food and that has light meat and a light to moderate flavor

Lake Michigan—*Coregonus clupea formis*

Other Great Lakes—*C. leucichthys artedii*

lake perch (yellow perch) A freshwater fish ($\frac{1}{4}$ – $\frac{3}{4}$ lb) with firm, white, lean flesh

lake sturgeon A finfish that has light meat and a light to moderate flavor

United States—*Acipenser fulvescens*

lake trout (togue; *Salvelinus namaycush*) A fat finfish caught in the lakes of North America, with light meat and a light to moderate flavor

1 lake trout, dressed = 12 oz

lake whitefish A finfish with white meat and very light, delicate flavor

lakiri A malt- and groundnut-based aliha beverage

lakka A bittersweet cloudberry (*Rubus chamaemorus*) liqueur

lak-you A thick soy sauce

La Mancha A breed of goat

See Part 2: Goats, Milk Breeds

lamb 1) A young animal of the ovine species (sheep) of either sex and less than 12 months old; it does not have the first pair of permanent teeth (no permanent incisors) and will produce a clean break at the "break joint;" dressing percentage, avg. 52%. 2) The flesh of young (less than 12–14 months old) ovine animals of both sexes

Lamb grades: Prime; Choice; Good; Medium (spring lambs only); Plain; Cull

To cook: heat to an internal temperature of 140°F (rare), 160°F (medium), or 170°F (well done)

Composition: sodium (cooked, lean) 58 mg/3 oz (85 g); cholesterol 85 mg/3 oz

See **break joint; hothouse lambs** (for their grades)

See Part 2: Animal Foods, Composition; Bone; Bone Age; Braising Time; Broiling Time and Temperature; Calories, Daily Recommendations; Cholesterol Control; Cooking in Liquid, Time; Food, Composition; Frozen Food Storage; Frozen Meat Storage Time; Glutamate; Grades, Meat; Iron, Daily Recommendations; Lamb Braising; Lamb Broiling; Lamb Chart; Lamb Crown Roast Carving; Lamb Cuts; Lamb Cuts and Uses; Lamb Leg Carving; Lamb, Percentages of Daily Recommended Allowances; Lamb Quality Guide; Lamb Roasting; Lamb Simmering; Lamb Wholesale Cuts; Lamb Yield; Lamb Yield Guide; Liver; Meat and Meat Products, Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat Label; Meat, Nutritive Value; Meat, Servings per Pound; Meat Storage; Minerals, Food; Niacin, Daily Recommendations; Riboflavin, Daily Recommendations; Roasting Meat; Roasting, Time and Temperature; Sheep Market Classes and Grades; Simmering Meat; Thiamin, Daily Recommendations; Vitamin A, Food

lambanog A coconut-sap-based arrack beverage or toddy

lambaspaeipylsa A dry, uncooked, smoked Icelandic sausage made from medium-chopped, heavily seasoned beef, lamb, and pork fermented and stuffed into artificial casings; a pepperoni made from beef, lamb, and pork

lamb chop A slice (2–4 cm thick) cut from the rib, loin, shoulder, or sirloin of a lamb carcass

1 lamb chop = 0.4 lb

lamb chuck A wholesale cut of lamb consisting of all in front of the fourth rib

lambda (Λ , λ) 1) The Greek letter with an English equivalent of l; used as a symbol for the wavelength of light. 2) A measure of volume or weight

1 λ = 1 microliter (μ l)

= 1×10^{-3} milliliter (ml)

= 1×10^{-6} liter (l)

= 1 microgram (μ g)

= 1×10^{-3} milligram (mg)

= 1×10^{-6} gram (g)

lambert (L) A unit of brightness

1 L = 2.054 candelas per square inch (cd/in.²)
= 0.3183 candelas per square centimeter
(cd/cm²)

lamb grade Prime; Choice; Good; Utility

lamb hog See **hogget**

lambic A strong, sour, alcoholic beer made by long fermentation of barley or wheat, with a maturation period; beer that ferments spontaneously without adding yeast, e.g., gueuze, faro, kriel

lambkill A plant having a toxic principle
See Part 2: Poisonous Plants

lamb leg See Part 2: Lamb Chart; Lamb Roasting; Lamb Yield

lamb mint See **spearmint**

lamb quality See Part 2: Lamb Quality Guide

lamb quarters See **lamb's quarters**

lamb rack 1) An elevated, troughlike skinning rack used in the slaughter of lambs. 2) The rib portion of lamb foresaddle
7- to 9-rib rack = 1.25-1.5 lb

lambrusco A dry, semisparkling, red Italian wine made from Lambrusco grapes in the vicinity of Modena

lambrusco di sorbara A dry, lightly sparkling Italian wine from the Emilia region (north-central Italy)

lamb's fry The liver, heart, sweetbread, and leaf fat of a lamb

lamb's lettuce (*Valerianella locusta*) A firm-textured salad plant that grows early in the spring See **corn salad**; **field salad**

lamb shank 1 shank = 0.9 lb

lamb, spring The meat from young lambs born in late winter or early spring and slaughtered between March 1 and the end of the week that contains the first Monday in October

lamb's quarters (goosefoot; pigweed; *Chenopodium album*) An annual weed whose stems and leaves may be eaten raw as a salad or cooked like spinach; also Algerian *C. amaranthicolor*, which is used as a mild spinach

lamb's wool An English drink made from hot ale, apples, and spices

lamb yield See Part 2: Lamb Yield Guide

lamella A thin leaf or plate

laminarin A starchlike carbohydrate obtained from brown algae

laminated A product made from thin sheets

Lamona An American class of chicken that lays a light-colored egg; chicken color, white

lamothe-bougon A French cheese

lamoun makbous Pickled lemon

lamprey An eel-like vertebrate suckerfish used for food

Atlantic and Great Lakes—*Petromyzon marinus*
Caspian—*Caspiomyzon wagneri*
Northeast Asia—*Lampetra japonica*
Rivers—*L. fluviatilis* and *L. ayesii*

lanack See **limburger cheese**

lancashire A hard, crumbly, double-curd cheese made from cow's milk and matured for 1-4 months

Lancashire cheese A soft to hard, crumbly, white, mild cooking cheese made from cow's milk with rennet added; it has a creamy, mild taste that becomes stronger with maturity and is used on bread, in soups, and for toasting.

Sizes available: 10-lb loaf; 30-lb; 50-lb

lance A sand eel; used for food

lance nematode (*Hoplolaimus galeatus*) Parasitic nematode that reduces the yield and quality of sweet potatoes

lancet fish (*Alepisaurus ferox*) A food fish

landcress American cress See **cress**; **cress**, **American**

landed price A supplier's price that includes all of the supplier's costs related to the sale

landjaegar A semidry, uncooked, smoked, cervelat-style American sausage made from medium-chopped, mildly seasoned beef and pork fermented and stuffed into pork or artificial casings; the product is pressed flat and has a black, wrinkled appearance; a dry sausage

landjaeger cervelat A heavily smoked, black, wrinkled, semidry Swiss sausage made from beef and pork; linked and pressed to give a four-sided appearance

landjäger 1) A dry, uncooked Austrian sausage made from medium-chopped, medium-seasoned (nitrite) beef and pork fermented and stuffed into pork casings with a diameter of less than 30 mm. 2) A salami made from heavily seasoned beef and pork. 3) A dry, uncooked, smoked or unsmoked Swiss sausage made from medium- or coarse-chopped, heavily seasoned beef and pork stuffed into beef, pork, or artificial casings or not stuffed into a casing. 4) A medium- to coarse-chopped, uncooked, smoked or unsmoked, American sausage available in fermented and/or dry or semidry links, rings, or large-diameter casings

landleberwurst A moist, cooked, unsmoked eastern German sausage made from fine- or medium-chopped, medium-seasoned pork liver stuffed into a pork or artificial casing

land phosphate See **land rock**

land plaster (rock gypsum) A fertilizer material that is 70-75% CaSO₄; used for calcium supply for peanuts; 0-0-0 See **gypsum**

Landrace A bacon-type hog originating in Denmark; it was originally selected for the Wiltshire bacon market; many countries have different types of this breed of pigs.

See Part 2: Swine Breeds

land rock (land phosphate) Phosphate rock containing from 18 to 40% phosphoric acid

langemelk A thick, ropy, low- to medium-acid, slightly alcoholic, fermented cow's milk

Langensalzer A dairy breed of goats native to Germany

langfil A thick, ropy, low- to medium-acid (pH 4.4-4.7) fermented cow's milk

langmjolk See **langmelk**

langosta See **crayfish**

langouste A crustacean similar to the lobster

langres A soft, munster-type cheese made from cow's milk

langres cheese A soft French cheese made with rennet

langsats (*Lansium domesticum*) A type of mangosteen fruit from southwestern Asia
See Part 2: Fruit Storage

Langshan An Asiatic class of chickens that have feathered shanks and lay a brown-shelled egg
Varieties: Black (white skin); White (yellow skin)

lanolin (**lanoline**; **wool fat**) Yellow-white, refined wool grease (wax); a mixture of cholesterol palmitate, cholesterol oleate, and cholesterol stearate; used as a base for ointments and creams and as a masticatory substance in chewing gum base; mp 36–42°C
Storage: well-closed container in a cool place

lantern fish (*Diaphus coeruleus*) A food fish

lanthanum (**La**) A metallic element; at. no. 57; at. wt. 138.92; Group IIIB of the Periodic Table; electron configuration 2–8–18–18–9–2
orbit K L M N O P
oxidation state +3

lanzones See Part 2: Fruit Classification

lao argoon A rice wine

lao-chao A sweet, slightly alcoholic, glutinous rice

laos (**galanga root**) A mild-flavored root that resembles ginger and is used in curries and fritters; available frozen or dried

lap The side seam on a can where there are two layers of metal that are bonded together; two thickness of material bonded together

lappi An edam-type cheese

lapsang souchong See **black tea**

laqueuille blue cheese A hard French cheese

larch gum (*Arabinogalactan*) A gum obtained by water extraction from the western larch tree; used as a food stabilizer, thickener, and texture modifier

lard A semisolid natural fat extracted (rendered) from pork fat; max. rendering temperature 240°F
Types:

Hydrogenated—hydrogen added to lard to raise melting point and lower susceptibility to oxidation

Kettle-rendered—leaf and back fat rendered in an open kettle at 240–260°F

Kettle-rendered leaf—leaf fat rendered in an open kettle at 230–250°F

Prime steam—killing and cutting fat in direct contact with steam; closed kettle at 285°F

Grain size is influenced by cooling rate.

1 cup = 220 g (7.8 oz)

2 cups = 1 lb

Fatty acid composition: myristic 1%; palmitic 27–28%; palmitoleic 3%; margaric 0.5%; stearic 12–13%; oleic 44–47%; linoleic 6–10%; linolenic 0.5%

Free fatty acid content 0.015–0.310% desirable, often up to 3.4%

1 tbsp = 115 calories

Composition: fat 100%; ash 0%; protein 0%; carbohydrate 0%

Yield from rind fat 80–85%; yield from nonrind fat (hand press) 75–78%

Properties:

Iodine value—45–75 (fat from peanut-fed hog > 85)

Cutting fat (65% of hog fat)—Iodine value 57–60

Killing fat and depot fat (35% of hog fat)—Iodine value 67–70

Melting point

Back fat—86–104°F

Leaf fat—110–118°F

Mixed lard—36–45°C

Refractive index (60°C)—1.441–1.461

Saponification value—190–205

Smoke point—250–425°F; varies with free fatty acid (FFA) content

Continuous process—420°F

Steam-rendered—340–372°F

Specific gravity—0.917–0.938

Unsaponifiable matter—0.8%

Storage: Keep covered (90–95% relative humidity); if hydrogenated with antioxidants, room temperature; if not stabilized, refrigerate (45°F); storage life 4 months

See **leaf fat**; **pork fat**

See Part 2: Altitude Adjustments For Baking; Calories, Daily Recommendations; Cholesterol Control; Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Lard, Triglyceride Mole Percent Composition; Melting Points, Fats and Oils; Minerals, Food; Oils and Fats, Composition; Pork Carcass, Retail Yield; Pork Yield; Saturated Fatty Acids; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Titer, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids

lard, drip-rendered Dry-rendered lard that drips from the rendering tank during rendering

lard, dry-rendered Lard obtained from pork trimmings by rendering in a steam-jacketed kettle (partially closed or closed tank)

larder beetle An insect that feeds on stored meat and cheese; the adult is $\frac{1}{8}$ in. long and dark brown with a yellow band across the back; larva is $\frac{1}{8}$ in. long, fuzzy, and brown.

See Part 2: Larder Beetle

larding A method of securing pieces of bacon fat to meat to keep the meat from drying during cooking
See also **lardoon**

lard, kettle-rendered Lard obtained from pork leaf and back fat in an open, steam-jacketed kettle

lard, leaf Lard obtained from pork, internal, abdomen fat

lard oil The liquid (primarily olein and stearin) obtained by pressing prime steam lard

Iodine number—56–82

Refractive index (15.5°C)—1.469–1.472

Saponification number—193–198

Specific gravity—0.905–0.916

lardoon (lardon) Narrow strips of bacon fat or fat used to keep meat from drying during cooking *See also larding*

lard, prime steam Lard obtained from pork trimmings by injecting live steam into a closed tank

lard-type hog A classification of hogs that has been changed to meat-type hog due to the trend toward leaner hogs

Laredo A variety of soybean

Large Black A British breed of hardy, docile, black hogs

large intestine (colon) The portion of the digestive tract that accepts digested food from the small intestine and absorbs some of the remaining water
Sections: ascending colon, or cecum; transverse colon; descending colon

largemouth bass A fish belonging to the sunfish family

Large White (Yorkshire) A breed of hogs *See Yorkshire*
See Part 2: Swine Breeds

Large White Ulster A British breed of white swine

larkspur A plant having a toxic principle
See Part 2: Poisonous Plants

larron d'or A strong-flavored cheese, made from cow's milk, with a red-brown rind

larron, le A cheese made from skimmed cow's milk

laruns A munster-type cheese made from sheep's milk

larva The preadult form of some animals, especially insects

lasagne (lasagna) 1) A baked, Italian, pasta dish made from alternating layers of several cheeses, tomatoes, meat sauce, and alimentary paste (i.e., pasta, noodles). 2) A pasta product shaped as ribbons or squares, usually with wavy edges

Types:

Large—1½ in. wide; flat

Veneziana—2⅝ in. wide; wavy sides

Ricci—1½ in. wide; wavy sides

lasalocid A drug used to promote weight gain, to improve feed efficiency, and to prevent coccidiosis

lascar European sand sole; a food fish

Lash Serum *See Part 2: Microorganism, Media*

Lasiopoda vitis A small fly (also known as a gnat or midge) that causes irregular, succulent galls (known as tomato galls) on grape leaves

lassi A sour, diluted milk that is often salted with spices and herbs or sweetened; a beverage made from sour milk, sugar, water, and soda water

LAST Live Animal Swab Test

late blight A tomato leaf-spot disease that is caused by leaves being frequently wet
Control: application of maneb or zineb

late bloom The stage of maturity during which blossoms are drying and falling

late leaf spot (*Cercospora minima*) A fungal disease of pear trees that causes gray spots on leaves and sometimes defoliation

latent heat The heat absorbed or lost by a substance as it changes state without a change in temperature; e.g., for water the latent heat of fusion (ice to water) is 80 calories per gram (cal/g), and the latent heat of condensation (steam to water) is 540 cal/g. One pound of water vapor at room temperature has approximately 1050 Btu of latent heat

See Part 2: Temperature of Vaporization, Latent Heat of Vaporization, Boiling Point

lateral Pertaining to the side, or flank

latex A white, milky fluid obtained from many varieties of shrubs and trees; the most common is rubber latex (from the tree *Hevea brasiliensis*), which contains about 30% rubber hydrocarbon (which is separated by addition of acetic or formic acid). The hydrocarbon particles are coated with a proteinaceous protective colloid. Latex of the papaw contains papain. The latex of the sapodilla plant is called chicle.

Latin American white cheese *See queso blanco*

latin square An array with

$$(\text{no. columns}) = (\text{no. rows}) = (\text{no. treatments})$$

	Columns		
	A	B	C
Rows	C	A	B
	B	C	A

Key:

$X_{\text{column row treatment}}$

SS = sum of squares

MS = mean square

df = degrees of freedom

Column							
Row	1	2	...	i	...	a	Row ΣX
1	X_{111}	X_{212}		X_{i1K}		X_{a1R}	$X_{\cdot 1K}$
2	X_{122}	X_{22K}		X_{i2R}		X_{a21}	$X_{\cdot 2K}$
...
j	X_{1jK}	X_{2jR}		X_{ij1}		X_{aj2}	$X_{\cdot jK}$
...
n	X_{1nR}	X_{2n1}		X_{in2}		X_{anK}	$X_{\cdot nK}$
Column ΣX	$X_{1\cdot K}$	$X_{2\cdot K}$	...	$X_{i\cdot K}$	...	$X_{a\cdot K}$	X_{\dots}
Treatment summary							
	1	2	...	K	...	R	
Treatment ΣX	$X_{\cdot \cdot 1}$	$X_{\cdot \cdot 2}$	...	$X_{\cdot \cdot K}$	...	$X_{\cdot \cdot R}$	X_{\dots}

$$\text{Correction} = \frac{(X_{\dots})^2}{an} = C \quad a = n = R$$

$$\text{Total SS} = (X_{111})^2 + \dots + (X_{anK})^2 - C$$

$$\text{Row SS} = \frac{(X_{\cdot 1K})^2 + \dots + (X_{\cdot nK})^2}{a} - C$$

$$\text{Column SS} = \frac{(X_{1\cdot K})^2 + \dots + (X_{a\cdot K})^2}{n} - C$$

420 latin square

Treatment SS

$$= \frac{(X_{..1})^2 + \cdots + (X_{..R})^2}{\text{number of observations in Treatment sum}}$$

$$\text{Error} = \text{Total SS} - \text{Row SS} - \text{Column SS} - \text{Treatment SS}$$

Sources of variation			
	df	SS	MS
Total	$an - 1$	Total SS	
Row	$n - 1$	Row SS	$\frac{\text{Row SS}}{n - 1}$
Column	$a - 1$	Column SS	$\frac{\text{Column SS}}{a - 1}$
Treatment	$R - 1$	Treatment SS	$\frac{\text{Treatment SS}}{R - 1}$
Error	$(a - 1)(a - 2)$	Error SS	$\frac{\text{Error SS}}{a^2 - 3a + 2}$

$$F = (\text{MS of Row, Column, or Treatment}) / (\text{MS Error})$$

$$df = (a - 1), (a^2 - 3a + 2)$$

latissimus dorsi The broad muscle of the back that runs from the spinous processes of the lumbar vertebrae to the humerus; it is the lateral muscle in the rib end of a rib steak.

latosols Red, friable, clay soils

lattfil A thick, ropy, low- to medium-acid (pH 4.4–4.7), fermented cow's milk

lattice design An incomplete block design by which the number of treatments is a perfect square and the number of samples evaluated at one time is the square root of the number of treatments

lattol An alcoholic beer

latvian liverwurst A moist, cooked, unsmoked Australian sausage made from finely chopped, medium-seasoned pork stuffed into artificial casings

latviysky A semihard, strongly flavored cheese made from cow's milk and ripened by surface bacteria

lauantai A moist, cooked, smoked Finnish sausage made from finely chopped, mildly seasoned (with potato flour) beef and pork stuffed into 75-mm artificial casings

laughing gas See **nitrous oxide**

lau-lau A Hawaiian dish made from butterfish and pork wrapped in taro leaves

laurel See **bay leaves**

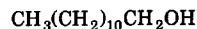
laurel-kernel oil See **Part 2: Saturated Fatty Acids**

laurel-leaf oil (bay-leaf oil) An oil obtained by steam distillation of the leaves of *Laurus nobilis*; used as a flavoring agent in food; sp. gr. 0.905–0.930
Storage: full, tight, glass container in a cool, dark place

lauric acid See **dodecanoic acid**

lauroleic acid See **Part 2: Fatty Acids and Their Properties; Unsaturated Fatty Acids**

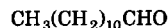
lauryl alcohol (1-dodecanol)



Used as a fattylike flavoring agent in food; sp. gr. 0.829–0.836

Storage: full, tight, glass container in a cool, dark place

lauryl aldehyde (dodecanal)



Used as a fattylike flavoring agent in food; sp. gr. 0.826–0.837

Storage (short-term): full, tight, glass container in a cool (not cold), dark place

lauryl sulfate broth See **Part 2: Microbiological Media**

lauryl tryptose broth A liquid medium for growing coliforms

See **Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods**

laval A medium-flavored, semisoft cheese

lavandin oil An essential oil steam-distilled from a plant of the lavender species

See **Part 2: Flavoring Agents, Natural**

lavash A leavened, thin flatbread that is usually made from high-extraction wheat flour

lavender [*Lavandula nana alba*; *L. officinalis*; *L. spica* (broad-leaved); *L. vera* (narrow-leaved)]
The fragrant (sweet-scented), fresh or dried flowers and foliage of a perennial evergreen herb; used as flavoring; the oil has a pungent fragrance and a spicy, bitter taste and is used in perfume

lavender flower A flower that is used as an herb for tea

lavender oil An essential oil steam-distilled from lavender flowers; used as a lavender flavor in food; sp. gr. 0.874–0.894

Types:

Hybrid (*Lavandula abrialis*)

Spike lavender (*L. latifolia*)

True lavender (*L. officinalis*)

Storage: full, tight, glass container in a cool, dark place
See **Part 2: Essential Oils**

laver (*Porphyra umbilicalis*) A red-algae seaweed used (pickled or stewed) for food; there is also a green laver (*Ulva* sp.)

lawn clippings An excellent source of plant nutrients; can be used as a mulch

law of chemical equilibrium See **equilibrium constant**

law of mass action See **equilibrium constant**

lawtonberry A small, round, black fruit obtained by crossing a blackberry or dewberry and a loganberry

laxative A substance that encourages or causes bowel movement

layang A kind of dried fish (*Decapterus* sp.)

layering A technique of propagating plants by covering a branch (still attached to the parent plant) with soil and allowing it to develop roots

lb (pound) The abbreviation of *libra*

LCL Less-than-carload (freight car) lot

LD₅₀ See **acute toxicity**

LDL 1) Lowest detectable limit, the lowest amount of individual residue or sample component that can be found or observed in a sample matrix by the current appropriate methodology. 2) Low-density lipoprotein See **low-density lipoprotein**

leach To wash out water-soluble components, as from the soil

lead (Pb) A metallic element; at. no. 82; at. wt. 207.21; Group IVA of the Periodic Table; oxidation states +2, +4; electron configuration 2-8-18-32-18-4 orbit K L M N O P

Lead and its compounds are toxic to humans and animals; found in some solders, enamels, glazes, paints, and insect sprays

See Part 2: Chemical Poisoning; Minerals (Trace), Limits; Water Drinking Standards

lead arsenate (PbHAsO₄) A poisonous inorganic insecticide

lead feeding (challenge feeding) Increasing the feed to cows approximately 3 weeks prior to calving

leaf 1) The lateral outgrowth of a stem and that portion of a plant in which photosynthesis occurs. 2) A thin sheet of materials. 3) See **tschil**

See Part 2: Corn; Vegetables, Classification; Wastes, Agricultural and Industrial

leaf beetle See **syneta leaf beetle**

leaf blight A fungal (*Dendrophoma obscurans*) disease of strawberry plants that causes red to brown spots with a purplish border on the leaves; the stem may become enlarged and soft and may have a pale pink rot.

Control: plant resistant varieties; renew fields; fungicide spray

See Part 2: Sorghum Diseases

leaf cheese (telpanier; tschil; zwirn) An Armenian cheese made from skimmed cow's or sheep's milk See **telpanier; tschil**

leaf fat The fat around the kidneys of a hog; also the fat that lines the abdominal cavity; leaf fat from hogs makes an excellent lard.

leaf gum See **gum tragacanth**

leafhopper Any of many insects; the adults are many colors (green, brown, yellow, or striped), wedge-shaped, up to $\frac{1}{8}$ in. long, and fly quickly when disturbed; the nymphs are similar to adults, but are smaller and crawl sideways like crabs. They attack the underside of leaves, causing leaves to curl or roll downward; a peanut pest

See Part 2: Insect Control

leaf lard The rendered internal abdominal fat of the hog, the fat located on the interior of a pork loin; max. iodine number 50; mp 110-118°F; smoke point 430°F (221°C)

leaf lettuce A crisp, light green, curly-edged lettuce used for salad greens See also **lettuce**

leaf miner Any of several insects whose larvae burrow into the parenchyma of leaves; e.g., one that damages tomato plants has an adult that is a small, golden brown moth with silvery markings; the larva

is a small worm that is found inside leaves in thread-shaped, trumpet-shaped, or irregularly shaped tunnels, deforming leaves and causing dead areas in them.

Control: diazinon

See Part 2: Insect Control

leaf mold A compost made of dry, chopped leaves; it is a good mulching material, but weeds will usually grow through it. See **white rust**

leaf mustard (Chinese mustard; *Brassica juncea*) A cabbagelike or curly-leaved plant used like spinach

leaf roll A virus disease of strawberries that causes the leaves to be twisted or rolled downward into a tube.

Control: Plant virus-free stock; use insecticides.

leaf roller The larva of various insects; it makes a nest by rolling a leaf over and tying it down with silk, forming a tent.

Fruit-tree leaf roller (*Archips argyrospila*)

Red-banded leaf roller (*Argyrotaenia velutinana*)

The adult insect is a brown moth with light markings on the wings and a $\frac{3}{4}$ -in. wingspan; the larva is pale yellow or dirty green, has a brown and black head, and is up to $\frac{3}{4}$ in. long; it feeds on the buds and leaves of apple and pear trees, eating irregular holes in the leaves, and also feeds on the fruit, usually causing it to be small and mis-shapen.

See Part 2: Insect Control

leaf rust A disease of the wheat leaf caused by a parasitic fungus (*Puccinia recondita*); it reduces the number and size of kernels and the yield and protein content of the grain.

leaf scald A rice disease (caused by *Rhynchosporium oryzae*) found in the southern United States; there are no control measures.

leaf scorch A fungal (*Diplocarpon earliana*) leaf disease of strawberries that causes small, dark purple spots on the undersides of leaves; later, the leaf may dry up and look scorched. The disease may be prevented by the use of resistant varieties.

Control: use of fungicide; renewal of field

leaf smut A rice disease caused by a fungus (*Entyloma oryzae*); there are no control measures.

leaf spot 1) A fungal (*Mycosphaerella fragariae*) disease that affects the leaves, petioles, fruit stalk, runner, and fruit caps of strawberries, producing spots tan or gray in the center with a purple border; it may be prevented by the use of resistant varieties.

Control: fungicide spray; renewal of field

2) A fungal (*Coccomyces hiemalis*) disease of cherry trees that causes small spots on the leaves; spots are first purple and then brown; defoliation results in severe cases.

Control: sprays

3) A fungal (*Sphaerulina rubi*) disease that attacks blackberries and raspberries, causing tiny, greenish black spots to develop on upper leaf surfaces; as the leaves mature, the spots turn gray.

Control: Remove and burn canes after harvest; thin to allow good air flow and drainage; apply sprays recommended for anthracnose.

See **early leaf spot; late leaf spot**

422 leaf variegation (spring yellows)

leaf variegation (spring yellows) A noninfectious disease caused by a defect in the hereditary makeup of strawberries; there is no known cure, but it may be prevented by use of nonvariegated planting stock.

leafy spurge (*Euphorbia esula*) A perennial weed

league A linear measurement

- 1 league = 15,840 feet (ft)
- = 5280 yards (yd)
- = 24 furlongs
- = 3 miles (mi)

leakage Of containers, the loss of the hermetic seal

leaker A container that has lost its hermetic seal *See* **TA spoilage**

lean Describes muscle that contains little fat

lean body mass (LBM)

Body mass = adipose tissue + LBM

See **fat-free mass**

lean cuts (hog carcass) Boston butt, picnic, loin, and ham; lean pork trimmings contain 20–25% fat.

lean fish Fish that contain less than 5% fat: Alaska pollock (pollack); Atlantic cod; Atlantic pollock (pollock); croaker; flounder; grouper; haddock; hake; halibut; ocean catfish; ocean perch; orange roughy; Pacific cod; sea bass; sea trout; sole; whiting

leanyka A dry or sweet, Hungarian table wine

least significant difference A value that can be used if only two means are compared ($\alpha = 2$, where α = number of treatments); if three or more means are compared, too many will be judged significant

Difference in means = $t_{\alpha x} \sqrt{2}$

least squares A principle that states that if deviations are measured from the sample mean and then squared, the sum of these squares will be a minimum value; if the deviations were compared to any value other than the mean, then squared and summed, the resulting sum would be larger than when compared to the mean.

leather The cured skin or hide of an animal; may or may not be tanned *See also* **tannic acid**

leather cheese A German cheese that is made from skimmed cow's milk and has small eyes

leather dust A nitrogen fertilizer

leatherfish (tub; yellow gurnard; *Monacanthus tomentosus*; *Trigla hirundo*) A food fish

leather jacket The larva of the crane fly (daddy longlegs); attacks brassicas, grass, and lettuce

leather rot A disease of the strawberry, caused by a fungus (*Phytophthora cactorum*), that attacks both green and ripe berries; proper spacing and correct timing of fertilizer applications are the most important preventive measures; fungicides are also helpful.

leaven 1) A mixture of yeast, flour, water, and sugar that is allowed to start to ferment and then added to dough; materials that are added to pastry dough to cause it to rise and become lighter and more digestible. 2) To add baking powder, baking soda, or yeast to dough to make it rise. 3) A fermented dough used in bread baking; old dough that has fermented

leavening agent A substance that is added to a product (e.g., dough) to do the following: to produce or stimulate the production of carbon dioxide; to

cause fermentation, which makes the product lighter; to make the food porous and light; to cause baked goods to rise

Types:

- Biological—yeast; bacteria
- Chemical—baking powder; baking soda
- Physical—steam; air; egg white

See **baking powder; yeast**

leaves The plural of leaf *See* **leaf**

Lebanon An all-beef, semidry sausage that is given a 6–14-day cold smoke and has a tangy flavor due to microbial growth; a coarsely chopped, dry, fermented sausage that has a dark surface and originated in Lebanon, Pennsylvania

Composition: moisture 59.3%; protein 19.6%; fat 15%; carbohydrate 2%; ash 4.2%

Lebanon bologna A moist, uncooked, heavily smoked sausage made from coarsely chopped beef

leben A type of kefir

leben-up A sour, diluted milk

leberkäse 1) A moist, cooked, unsmoked finely chopped, mildly seasoned beef and pork not stuffed into a casing. 2) A moist, cooked, unsmoked Austrian sausage made from medium-chopped, medium-seasoned (with nitrite) beef and pork not stuffed into a casing

leberwurst A moist, cooked, smoked fine- or medium-chopped, medium-seasoned, beef and pork stuffed into artificial casings *See* **liver sausage**

leberwurst hausmacher A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from medium- or coarse-chopped, medium-seasoned beef and veal stuffed into beef, pork, or artificial casings

lebkuchen A cookie containing candied orange peel, cherries, citrons, honey, almonds, and seasoning

lebaneh *See* **labna**

lecheguilla A plant having a toxic principle

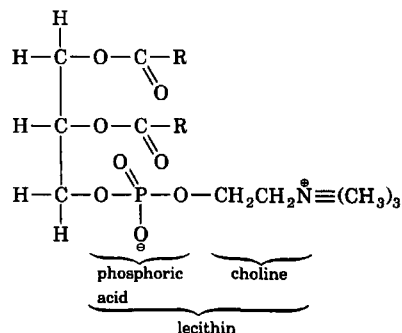
See Part 2: Poisonous Plants

lechem A wheat bread

lechon A festive pig cooked over live charcoals

lecithin (trimethyl hydroxyethyl ammonium hydroxide) A phosphatidyl choline; lecithins are mixtures of fatty acid diglycerides combined with the choline ester of phosphoric acid. Lecithin may be extracted from soybean flakes, of which it constitutes 0.2–0.6%. Lecithins occur in brains, nerves, liver, egg yolk, soybeans, pancreas, heart and blood.

Lecithin structure (for R = any fatty acid):



Uses: emulsifying agent; foam stabilizer; suspending agent; release agent; surface-active agent; wetting agent; nutritive supplement; antispattering agent; antioxidant (0.075%)

Storage: well-closed container

See Part 2: Minerals (Trace), Limits

lecithinated soy flour Defatted soy flour to which 15% lecithin has been added

lecithoprotein Protein attached to lecithin or some other phospholipid

leczycja A moist, uncooked, smoked Polish sausage made from finely or coarsely chopped, medium-seasoned beef and pork stuffed into sheep or artificial casings

Lee A variety of soybean

leechee See litchi

leek ("asparagus of the poor"; *Allium cepa*; *A. porrum*) A sulfur-containing, onionlike, biennial plant with a thick (1- to 2.5-in. diam., 8 in. tall), blanched stalk and an elongated bulb (larger than a shallot); the blanched stalks are added to sauces and soups, giving a robust flavor (a more delicate flavor than onion) and body (often used in $\frac{1}{8}$ - or $\frac{1}{4}$ -in. dice); also used to flavor salads or as a condiment; may be used raw, steamed, or boiled (15–35 min) and used as a vegetable (like asparagus); on cooking, the odor diminishes to a mild onion flavor.

Available forms: fresh; dried; freeze-dried (to 1–3% moisture, with a fresh-weight replacement of 1:10 or 1:13)

The broad, flat, dark green tops can be used as a substitute for green onions. When eaten by cows, leeks impart a flavor to milk. 9800–12,000 seed/oz; 1 oz seed/100-ft row; 2 in. apart in rows 15 in. apart; germination period 8–12 days; plants mature in 100 days and are used when stems have a $\frac{3}{4}$ - to 1-in. diam.

1 bunch = 4 leeks

1 serving = 1 stalk

Composition (bulb, raw): moisture 85%; protein 2%; fat 0.3%; carbohydrate 11%; ash 1%

Variety	Leaves	Stems		Season
		Length	Thickness	
American Flag	Med. green	7.5–9 in.	1–1.5 in.	130 days
Broad London				130 days
(Large American Flag)				
Conqueror				
Elephant	Med.	Thick		85 days
Giant				
Musselburgh	Med. green		2 in.	150 days
London Flag				
Odin				
Scotch Flag				
Titan	Dark green	6 in.		70 days
Tivi				
Unique	Dark blue-green	7.5 in.	2 in.	100 days

Storage: 32°F; 90–95% relative humidity; storage life 1 month

See onion, green

See Part 2: Minerals, Food; Planting Density; Storage; Sugar, Vegetables; Vegetable Composition; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Storage

leek soup Available as a dehydrated soup mix

Composition	Dehydrated	Prepared with water
Moisture (%)	2.5	92.8
Protein (%)	11.2	0.8
Fat (%)	10.9	0.8
Carbohydrate (%)	60.8	4.5
Fiber (%)	1.4	0.1
Ash (%)	14.6	1.1

lees (dregs; heel; pomace) 1) The grape skins that are left in the vat after pressing and that are pressed again to release residual wine. 2) The settlings of any liquid; the sediment, or dregs, of a liquid. 3) The sediment in wine or liquor See **sediment**

leg A lower limb; one of a pair of rear limbs of a meat animal See **poultry legs**

See Part 2: Bone; Bone in Retail Cuts; Lamb Cuts; Lamb Cuts and Uses; Lamb Roasting; Lamb, Wholesale Cuts; Meat Composition; Meat Identification; Meat, Servings Per Pound; Pork Cuts and Uses; Pork Wholesale Cuts; Poultry, Dressing Percentage; Roasting, Time and Temperature; Turkey Composition; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting; Veal Wholesale Cuts

leg bone See Part 2: Beef Wholesale Cuts; Lamb Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

Leghorn A Mediterranean class of chickens that is early-maturing, is a good egg producer, and lays a white-shelled egg.

Varieties (an asterisk indicates that there is also a

Bantam variety):

Rose-comb dark brown

Rose-comb light brown

Rose-comb white

Single-comb black

Single-comb black-tailed red

Single-comb buff

Single-comb Columbian

Single-comb dark brown

Single-comb light brown

Single-comb red

Single-comb silver

Single-comb white*

See Part 2: Poultry Breeds and Varieties

legnicka A moist, uncooked, smoked Polish sausage made from fine- or medium-chopped, medium-seasoned pork, with plasma added, stuffed into artificial casings

leg of lamb A meat cut that can be prepared in several lengths, but is usually cut in front of the hip bone See also **American leg of lamb**; **French leg of lamb**

legume (family Leguminosae) A family of plants that can obtain a major portion of their nitrogen by fixation of atmospheric nitrogen from the soil by bacteria (*Rhizobium* spp.) that live symbiotically in nodules on the roots; a plant that uses atmospheric nitrogen by utilizing nitrogen-fixing nodules on their roots; a plant that has the ability to live symbiotically with microorganisms which can fix atmospheric nitrogen in a form usable by plants, e.g., beans, lentils, peas, and soy beans See **pulse**

See Part 2: Sugar, Legumes; Vegetables, Classification

424 legumin (avenin; plant casein)

legumin (avenin; plant casein) A protein in legumes that is similar to casein

Leguminosae See Part 2: Vegetables, Classification

leguminous Having the ability, in combination with specific bacteria, to use atmospheric nitrogen from the soil

Leicester A long-wool breed of sheep originating in central England
See Part 2: Sheep Breeds

leicester A hard, grainy, orange-colored cheese

leicester cheese A hard English cheese made from whole cow's milk with rennet added; a mild and mellow English cheese with a rich, russet color and a slightly flaky texture; often used as a dessert cheese or cooking cheese

leicestershire cheese A hard, flaky, tangy, orange (colored with annatto) cheese

leiden A semihard, reduced-fat cheese made from cow's milk and flavored with cumin, cloves, or caraway seed; usually wheel-shaped

leidse A semihard, reduced-fat cheese made from cow's milk and sometimes flavored with cumin, cloves, or caraway seed; usually wheel-shaped

le moine A medium-flavored, semisoft cheese

lemon (*Citrus limon*) A citrus fruit with yellow skin (a few varieties remain green even when mature) and a high concentration of citric acid in the pulp; the juice is used in flavoring, cooking, confectionery, and in preparing lemonade and is a good source of vitamin C (50 mg ascorbic acid per 100 g); it may be used as a substitute for vinegar when less tartness is desired; also complements flavor of seafood; bottled juice does not keep well after opening. The plant is also used as a rootstock for other citrus plants. The fruit is much sweeter if allowed to ripen on the tree. Varieties:

Bonnie Brae
Eureka—small, commercial tree; very popular
Genoa
Lisbon—commercial; very popular
Messina
Meyer—less-acid fruit
Milan
Ponderosa—large, mild-flavored fruit
Sicily
Villa Franca—commercial

Refuse: rind and seed 30–38%

1 crate = 300–360 lemons
1 box (9.9 × 13 × 25 in.) = 76 lb
1 carton (10.25 × 10.7 × 16.4 in.) = 70 lb
3 lb, or 1 doz fresh lemons
= 2 cups juice [1 cup = 250 g (8.7 oz)]
1 lb = 3–5 lemons
= 4 med. lemons
= $\frac{1}{3}$ pt juice
1 cup lemon juice = 5–6 lemons
1 avg.-sized lemon = 2–4 tbsp juice
= $1\frac{1}{2}$ –3 tsp grated rind

Composition	Fruit, peeled	Juice	Peel
Moisture (%)	90	91	82
Protein (%)	1	0.5	1.5
Fat (%)	0.3	0.2	0.3
Carbohydrate (%)	8	8	16
Ash (%)	0.3	0.3	0.6
pH	2.2–2.4	2.3–2.6	

Storage: 32°F; 85–90% relative humidity; storage life 1–2 months; freezing point 28°F

See also **citrus fruit**

See Part 2: Citrus Fruit Storage; Essential Oils; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Fruit and Nut Rootstock; Fruit, Availability; Fruit Harvest Dates; Fruit Classification; Fruit Composition; Fruit Storage; Fruit Juice Flavors; Lemon Juice, Composition; Lemon Oil, Composition; Lemon Oil, Properties; Minerals, Food; Minerals (Trace), Limits; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage

lemonade A drink made from lemon juice, sugar, and water

1 gal = 16 eight-oz servings

1 doz lemons = 2 cups juice

= 16 servings

1 cup = 8.4–8.8 oz

lemon balm (*Melissa officinalis*) A sweet, aromatic, perennial herb with the odor and flavor of lemon; used for seasoning, salads, desserts, summer drinks, sauces, soups, liquors, perfumes, tea, and nectar (for bees) See **balm**

lemon cheese See **lemon curd**

lemon cream pie One-sixth of a pie (66 g) contains 92 mg sodium.

lemon cucumber A yellowish white, rounded cucumber with a delicate flavor

Storage: in refrigerator; peel before use

See **cucumber, lemon**

lemon curd (lemon cheese) A preserve made with lemons, sugar, butter, and eggs

lemon drops See **candy**

lemon extract (lemon essence) 5% by volume of oil of lemon, which is obtained by pressure from the peel or rind of a lemon

Extract type	Source	Oil of lemon (% by vol.)	Citral (min.)
Lemon (min. 80% by vol. of ethyl alcohol)	Oil of lemon or lemon peel		0.2%
Concentrated	Oil of lemon or lemon peel	20–60 (min.)	0.8%
Terpeneless Nonalcoholic	Oil of lemon, cottonseed oil	20 (min.)	2%

lemon filling Available as a commercial product that contains algin, color (artificial), egg, fruit acid, lemon flavoring, lemon juice, salt, starch, sugar, vegetable gum, and vegetable shortening

lemon gin A lemon-flavored liqueur

lemongrass (*Andropogon nardus*; *A. schoenanthus*) An herb that has the fragrance of lemon and looks like a fibrous green onion (but with a pungent, lemonlike flavor); a lemon-flavored grass that contains the essential oil citral; available fresh or dried

Uses:

Fresh leaves—a tonic tea

Oil (extracted from young leaves)—perfume; often mislabeled oil of verbena

Young leaves—cattle feed

lemongrass oil A volatile oil obtained by steam distillation of lemongrass;

Types:

East Indian (also called British Indian, cochineal, and native)—sp. gr. 0.894–0.905

West Indian—from Guatemala and Madagascar; sp. gr. 0.868–0.894

Used as a lemonlike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

lemon juice The juice from lemon pulp; often bottled (will lose flavor shortly after opening); contains citric and ascorbic acid; used in some frozen fruits as an antidarkening agent

1 cup frozen concentrate = 8.6 oz

1 cup = 8.6 oz

1 tbsp = 0.5 oz

1 tbsp = $\frac{1}{8}$ tsp crystalline citric acid

lemon-lime A carbonated beverage made with lemon juice with a small amount of lime juice

See Part 2: Beverage, Carbonated, Ingredients

lemon meringue pie One-eighth of a 9-in. pie contains 270 calories

lemon oil The oil obtained by pressure from lemon rind, skins, or juice (the oil and juice are expressed from lemons and the oil is then separated from the juice); the volatile oil expressed (with the aid of heat) from the peel of *Citrus limon*; sp. gr. 0.848–0.855; the oil is mixed with water and alcohol and used as a lemonlike flavoring agent.

Storage: full, tight container in a cool place

lemon pickle Sweet or salty lemon with or without oil

lemon sole A saltwater flatfish used for food

Northeast Atlantic—*Microstomus (Pleuronectes) microcephalus*; *M. limanda*, *M. kitt*

Oceania—*Peltotretis flavilatus*

See sole

lemon-spiced tea A scented tea made from lemon granules and black tea

lemon thyme A lemon-flavored variety of thyme; used as a substitute for lemon

lemon verbena (*Lippia citriodora*) A perennial herbaceous shrub whose aromatic, lemon-flavored leaves are used to make perfumes, to flavor jellies, in salads, and to make an infusion for a cooling drink

lemon, zest of Grated lemon peel

length Describes a lingering taste in wine

lenkki A moist, cooked, smoked Finnish sausage made from finely chopped, mildly seasoned (with potato flour) beef and pork stuffed into 45-mm artificial casings

Lent The interval between Ash Wednesday and Easter; a time of fasting and penitence observed in various Christian churches during which abstinence from certain foods is often practiced

lentil (dahl; dal; dhal; *Lens culinaris*; *L. esculenta*) A leguminous plant whose flat, thin, disk-shaped seeds (round, $\frac{1}{8}$ -in. diam., convex on both sides) are dried and used in soups and stews; 1–2 pea-sized seeds are contained in the flattened pod; the seeds may be green, greenish brown, golden brown, reddish, or mottled. Lentils do not have to be soaked before using in a recipe; the highest grade is U.S. No. 1. A similar legume (monantha vetch) is grown on the west coast of the United States.

To cook: Add 2 cups of lentils to 5 cups of water and 2 teaspoons of salt and boil for 30 minutes.

1 lb, dried = 2.25–2.5 cups

= 10–13 servings

= 5 cups, cooked

1 cup, dried = 190 g (6.7 oz)

1 cup, cooked = 200 g (7.1 oz)

Composition (dried seed, raw): moisture 11%; protein 25%; fat 1%; carbohydrate 60%; ash 3%; fiber (cooked) 4%

Storage (dried): tightly covered; 50–70°F; keep dry; do not mix with older product; will keep for several months

See Part 2: Beans, Dry, Cooking; Beans, Peas, and Lentils Label; Minerals, Food; Seed, Chemical Composition; Vegetable Servings

lentil with ham soup Available as a canned soup

Composition: moisture 85.7%; protein 3.7%; fat 1.1%; carbohydrate 8.2%; fiber 0.6%; ash 1.2%

leona A coarsely ground, cooked sausage

leppet-so A sour snack made from fermented tea leaves

Leptospira Finely coiled, aerobic organisms (6–20 μ m long) some of which are pathogenic to humans and animals

See Part 2: Microorganism, Media

leptospirosis 1) Lepto, a highly contagious disease of cattle, hogs, dogs, rodents, and humans; blood tests and vaccinations are available. 2) Redwater, a condition that destroys red blood cells

les aydes A French cheese

lescain A Russian cheese made from sheep's milk with rennet added

lesheleshele A sour porridge made from maize or sorghum

lesion An abnormal, unhealthy change in a tissue or loss of function of a tissue

lesion nematode (*Pratylenchus* spp.) A parasitic nematode that reduces the yield and quality of sweet potatoes

les laumes A French cheese

les orrys A semihard cheese, made from cow's (originally sheep's) milk, with a full, fruity flavor and sometimes flavored with peppercorns or pimento

426 lespedeza

lespedeza An annual used for pasture and hay and as a cover crop

Common (*Lespedeza striata*)

Korean (*L. stipulacea*)

Seed 25–50 lb/bu; plant 6–40 lb/acre; pH 6.0

Varieties: Climax; Kobe; Korean; Rowan

Approximate nutrients used for 2 tons of hay: N 77 lb;

P₂O₅ 16 lb; K₂O 41 lb

See Part 2: Seed, Germination

lespedeza, sericea (*Lespedeza cuneata*) A perennial grass used for forage and erosion control; seed 60 lb/bu; plant 20–40 lb/acre; pH 6.0; harvest when 12 in. tall, 2–3 times per year

Varieties: Common; Arlington

les riceys A riccioi-type cheese matured in ashes or vine stems

lesser cornstalk borer (*Elasmopalpus lignosellus*) An insect that attacks sorghum

less than The symbol used in scientific notation is < ; the notation for “less than or equal to” is ≤ (or ≤)

lethal dose See acute toxicity

Letheen broth A medium made with trypticase glucose extract, lecithin, and polysorbate 80; used for testing the action of quaternary ammonium compounds in cleaning (phenol coefficient)

leting A sorghum beer

lettuce (*Lactuca sativa*) An annual or biennial plant, originally from Central Asia, belonging to the daisy family and used as a salad green; 25,000–35,000 seed/oz; germination period 4–10 days; head lettuce: seed ½ oz/100-ft row; thin to 12 in. apart in rows 15 in. apart, matures in 60 days; leaf lettuce: seed ½ oz/100-ft row, thin to 6–10 in. apart in rows 15 in. apart, matures in 70 days.

Types:

Asparagus or Pamir—does not form a head; thick, swollen stems (which may be cooked) and long, narrow leaves

Bibb, Limestone—a variety of butterhead; tender with a sweet, buttery taste; small, cup-shaped head with green exterior and white interior

Boston (also called butterhead, Big Boston, or Bibb)—an American variety of butterhead with med.-large, tender leaves tinged with reddish brown; flat-topped, loose, oval head with dark green exterior and almost white interior

Cos (also called romaine)—England

French—forms a loose head or no head; slightly pungent taste and flavorful; pale, fleshy stem; can be eaten raw or cooked

Head lettuce (*L. sativa* var. *capitata*)—includes butterhead and crisphead varieties

Butterhead—forms small, cup-shaped head with green exterior and white interior

Crisphead—forms a firm head with medium green exterior and light green interior; durable in handling and storage

Iceberg (also called New York, crisphead, or head lettuce)—a good shipper with a firm head, medium green exterior, and light green interior

Leaf lettuce (*L. sativa* var. *crispa*)—lettuce that does not form a head; includes many varieties; leaves may be curly, smooth, shaped like oak leaves, or have ruffled edges; pale to dark green

Mâche (lamb's lettuce, or corn salad)—a poor shipper; grows as small bunches of spoon-shaped leaves; light to dark green; tangy or nutty flavor
Oakleaf—a leaf lettuce with leaves shaped like oak leaves

Romaine [also called cos or celery lettuce (*L. sativa* var. *longifolia* or *augustana*)]—elongated head with stiff leaves, dark green exterior, and light green interior

Trevisse—looks like radicchio (speckled with red); shaped like romaine

Type and variety	Season	Leaves or head
Crisphead		
Fairton		
Fulton		
Great Lakes	80 days	Med. size, solid; med. green
Iceberg Types	82 days	Large, compact; blanched heart; light green, wavy outer leaves
Imperial		
Ithaca	85 days	Very hard; 5 × 4 in.; dark med. green
Oswego		
Leaf		
Black Seeded	Early;	Light green, frilled;
Simpson	45–60 days	white center
Grand Rapids	43–60 days	Light green, frilled
Green Ice		
Matchless	50–60 days	
Oakleaf	40 days	Oak-leaf-like, dark green leaves; heat-resistant
Prizehead	45 days	Curled, reddish outer leaves; green, mild inner leaves
Red Salad	50 days	Frilled and crisp
Bowl		
Ruby		
Salad Bowl	45–60 days	Curly, wavy leaves; large, med. green; heat-resistant
Slobolt		Crisp and mild; heat-resistant
Boston		
Butter King	70 days	Thick, med. green leaves
Deci Minor	50 days	Grown in greenhouse
White Boston	66 days less time than most)	Light green, tender
Butterhead		
Bibb	57 days	Dark green; loosely folded; inside blanched
Buttercrunch	65 days	Med. size, compact; thick leaves
Fordhook	78 days	Deep green outer leaves; yellow heart
Hot Weather	82 days	Big
Summer Bibb		
Tom Thumb	65 days	Tennis-ball size, solid; med. green; blanched heart
Romaine, or cos (celery lettuce)		
Barcarolle	65–70 days	Loose, large head
Paris Island	75 days	Dark green; vigorous; mosaic-resistant
Paris White	83 days	Light green; very large, 10 in. tall; green-white heart; self-folding (requires no tying)
Valmaine	70 days	Dark green; vigorous

Composition: moisture 94–95%; protein 1–1.3%; fat 0.1–0.3%; carbohydrate 2.5–3.5%; ash 0.6–1%; fiber 1.6%; pH 6.0

Refuse: 15–30% stalk and outer leaves

Equivalents:

- 1 crate (13 × 18 × 21.6 in.) = 70 lb
- 3 heads of lettuce for serving salad = 50 servings
- 1 lb, loosely packed = 10 cups
- 1 lb = 1 med. head
 - = 6.2 cups, torn
 - = 1 small iceberg head
 - = 2.5 cups, torn
- 1 head Bibb lettuce = 12 leaves
- 1 head romaine = 10 leaves
- 1 med. head iceberg = 8 cups, torn
- 1 head leaf lettuce = 4 cups, torn
- 1 small head romaine = 4 cups, torn
- 1 cup chunks = 2.6 oz
- 1 cup leaves = 2.3 oz
- 1 cup, chopped = 2 oz
- 1 cup, chopped = 50 g
- 1 serving = $\frac{1}{3}$ – $\frac{1}{2}$ med. head

Storage: Wash and dry; store in refrigerator (32°F), in crisper or plastic bags (90–95% relative humidity); use within 1–4 days.

Chilling preserves freshness; before serving, lettuce can be placed in a plastic bag and placed in the freezer for a few minutes for extra crispness. *See also* Australian lettuce; Bibb lettuce; Boston lettuce; Bronze Beauty lettuce; Grand Rapids lettuce; Iceberg lettuce; leaf lettuce; New York lettuce; Oakleaf lettuce; Prizehead lettuce; romaine lettuce

See Part 2: Ascorbic Acid; Calories, Daily Recommendations; Food, Composition; Fruit and Vegetables, Diseases; Iron; Lettuce Types; Minerals, Food; Niacin; Nitrate, Vegetables; Phosphorus; Plant Foods, Composition; Planting Density; Potassium; Riboflavin; Riboflavin, Food; Storage; Sugar, Vegetables; Thiamin, Transit Temperature; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Storage; Vegetable Yields; Vitamin A

lettuce aphid An aphid that damages lettuce and endive plants in the eastern and southern (*Macrosiphum ambrosiae*) and in the western (*M. barri*) United States

lettuce, Asparagus (Pamir lettuce; *Lactuca sativa* var. *angustana*) A variety of cos lettuce that does not form a head; the thick stems are used for food.

lettuce, Indian A round-leaved winter green that is used like spinach

lettuce, Indian tree A coarse lettuce that is used like spinach

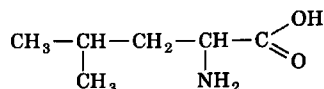
lettuce laver (green laver; *Ulva lactuca*; *U. latissima*) An edible seaweed

lettuce mosaic A viral disease of lettuce that causes a light to dark green mottling pattern and stunted plants

lettuce-root aphid A pest that attacks the roots of lettuce and of some trees and weeds

lettuce, sea (*Cramba maritima*) An edible seaweed that is rich in iodine

leucine A monoamino-monocarboxylic essential amino acid



Used as a nutrient or dietary supplement

Storage: well-closed container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

leucocyte *See* white blood cell

Leuconostoc A genus of sphere-shaped microorganisms; some species used in butter starters

See Part 2: Spoilage, Carbohydrate Foods

leuko- A prefix used to indicate white

leukocyte A colorless, nucleated, ameboid blood cell

Leunasalt peter A mixture of ammonium nitrate and ammonium sulfate used as a fertilizer

levamisole hydrochloride A drug that is used as a wormer

level playing field The concept that farmers should have equal treatment under government policies and an equal opportunity to compete for markets

leveret A small and very young hare

leverworst A moist, cooked, unsmoked Belgian sausage made from medium-seasoned pork stuffed into beef or pork casings

leverworst, Berliner A moist, cooked, smoked or unsmoked Dutch sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

leverworst, haagse A moist, cooked, smoked or unsmoked Dutch sausage made from fine- or coarse-chopped, mildly seasoned beef and pork, with coarsely chopped fat, stuffed into beef or artificial casings

Levine The microbiologist who developed the eosin methylene blue medium, which is used for differentiation of enteric bacilli, including coliform organisms, *Escherichia coli*, and *Aerobacter aerogenes*

See Part 2: Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products

Levine EMB agar *See* Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

levkas salami A dry, uncooked, unsmoked Greek sausage made from coarsely chopped, medium-seasoned pork, with pieces (1 cm³) of pork fat, fermented and stuffed into pork or artificial casings

levorotatory [l; (–)] The ability of an asymmetric compound to rotate polarized light to the left

levroux A valençay-type cheese made from goat's milk

levroux cheese A French cheese

levulans [(C₆H₁₀O₅)_x] A polysaccharide made up of levulose units and found in many plants

levulose *See fructose*

levure A paste of flour and water that is used for sealing lids of cooking containers to retain flavor

leyden A semihard, reduced-fat, usually wheel-shaped cheese made from cow's milk and sometimes flavored with cumin, cloves, or caraway seed

leyden cheese A hard, goudalike Dutch cheese flavored with cumin seed and cloves or caraway seed
See **nokkelost cheese**

lezay A valençay-type cheese made from goat's milk

Li The symbol for the element lithium

li A rice wine

liaison Using a thickening agent

liao-pau A rice beer

liban A type of kefir

Libbee A variety of clingstone peach

libido Of animals, the male sex drive

licanic acid See Part 2: Fatty Acids and Their Properties

lice Parasitical insects of several species that live on cattle, horses, and swine; may be reddish, bluish, or dark gray

lichee *See* **litchi**

lichen A plant composed of a fungus and an alga in a type of mutually beneficial union called symbiosis; color may be greenish gray to yellow-brown; found on rocky areas, trees, etc.; the chemical indicator litmus is made by fermentation of lichens.

licorice (liquorice; *Glycyrrhiza glabra*) The dried rhizomes of a perennial herb belonging to the pea family; they are chewed, powdered, extracted with liquid, and used to flavor sweets and soft drinks.
See Part 2: Minerals (Trace), Limits; Water Activity, Organisms and Food

licorice extract Obtained from the rhizomes of the licorice plant, which are ground into pulp and boiled in water; the extract is concentrated by evaporation.

lid A cover for a cooking utensil or storage container
See closure; cover
See Part 2: Glass Jar Tops

liebfraumilch Any of several quality white wines from the Rhine region that are mild and semisweet and are considered to have a pleasant character

Liebig, Justus von A German who developed the ideas of food composition, food analysis, and the metabolism of carbohydrate, fat, and protein in the body; he also showed that protein was needed in the diet.

liederkrantz A semisoft cheese, similar to brie, with a strong flavor and aroma

Liederkranz The proprietary name for a soft, creamy yellow, medium-strong cheese that is slightly less pungent than limburger and is ripened by surface bacteria; a dessert cheese made from cow's milk and sold as small ($1\frac{1}{2} \times 2\frac{1}{2} \times 1$ in., 120 g), red rectangles. Composition: moisture 52%; protein 16–17%; fat 28%; salt 1.5%; ash 3.5%

See Part 2: Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

life cycle The series of stages through which an individual passes: genesis, growth, maturation, reproduction, and death

life expectancy The average life-span of adult men and women, based on statistics and published in tabular form

LIFO Last in, first out

ligament A strip or band of fibrous tissue that attaches one bone to another or that supports the viscera

ligamentum nuchae (back strap) A ligament of the neck that supports the head

See Part 2: Beef Rib Nomenclature; Connective Tissue, Composition

ligase An enzyme that catalyzes the linking together of two substrate molecules in a process that includes the breaking of a pyrophosphate bond

light 1) Radiation of any wavelength of the electromagnetic spectrum; its velocity is 3×10^{10} cm/s (186,000 mi/s); the wavelength range of visible light is $3.9\text{--}7.7 \times 10^{-5}$ cm. Frequency is the ratio of velocity (in centimeters per second) to wavelength (in centimeters); microwave frequencies are used in cooking; X-rays and gamma rays are used in food preservation. *See also radiation.* 2) Of food, often used to indicate that a food has a low level of a particular component (e.g., cholesterol or sodium); there is no legal definition, but a list of nutritional analysis (including calories) is required. *See also lite*

light ale *See* **pale ale**

light calf skin A calf skin weighing less than 9 lb

light cowhide A cowhide weighing between 30 and 53 lb

light filth The count of insect fragments taken from an extraction, which determines cleanliness

lightning-type jars Jars with bail-wire clamps

lights The lungs of slaughtered cattle, pigs, or sheep; a portion of the offal obtained during animal slaughter and dressing; sometimes labeled "lites"

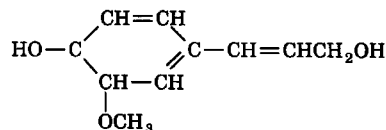
light steer hide A steer hide weighing between 48 and 58 lb

lightvan A white, brined cheese made from sheep's, goat's, or cow's milk

light whiskey A light-bodied whiskey distilled to a high alcoholic content and then diluted. It is aged in uncharred barrels

light-year (ly) A measure of distance
 $1 \text{ ly} = 9.4609 \times 10^{12} \text{ kilometers (km)}$
 $= 5.9 \times 10^{12} \text{ miles (mi)}$

lignin (crude fiber) An amorphous polymer found in wood (25–30%), the balance being cellulose; its exact chemical composition is unknown, but coniferyl alcohol is thought to be the monomer from which it is made.



It is used to cement cellulose fibers together; in papermaking, it is separated from cellulose in the digestion process; it is indigestible by humans because it resists hydrolysis by enzymes or human intestinal bacteria.

See Part 2: Histochemical Test

lignite The lowest grade of coal, often called brown coal; it is the next stage after peat in the coal formation cycle.

See Part 2: Fuel, Heating Value

lignoceric See **lignoceric acid**

lignoceric acid [$\text{CH}_3(\text{CH}_2)_{22}\text{COOH}$] A saturated fatty acid occurring in peanut oil and found in brain lipids

See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids and Their Properties; Fatty Acids; Fatty Acids, Fats and Oils; Saturated Fatty Acids

ligueuil A cheese made from cow's milk

ligule The papery, triangular structure at the base of a leaf

lilac blight See **pseudomonas blight**

Liliaceae The botanical name for the lily family

See Part 2: Vegetables, Classification

lilley A bittersweet vermouthe

lima bean See **bean, lima; butter bean**

See Part 2: Potassium

lima bean agar See Part 2: Microorganism, Media

limb One of the appendages of an animal, as an arm, a leg, or a wing

limburger A soft to semisoft (occasionally semihard), strong-flavored, rectangular cheese made from cow's milk and ripened by surface bacteria

limburger cheese (algau; briol; carinthian; emmersdorf; grottenhof; lanark; limburg; marianhof; morin; Saint Michels; schutzen; tanzenberg) A soft, creamy, white dessert cheese from Belgium with a pungent aroma and a robust, nutlike flavor; it is made from whole or partly skimmed milk and sold in a brick shape with a brownish exterior or packed in jars; ripened 1–2 months

Composition: moisture 45–49%; protein 20–22%; fat 27–28%; carbohydrate 0.5–2%; fiber 0%; salt 2%; ash 3–4%; sodium 227 mg/oz

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Cheese, Composition; Vitamin A, Milk and Milk Products

lime [fruit (sweet lemon; *Citrus aurantifolia*; *C. limetta*)] A small citrus tree that bears a fruit with a yellowish (Key) or greenish (Persian or Tahitian) skin; the fruit (1 med. lime has a 1½-in. diam.) has a high ascorbic and citric acid content and is used to flavor food, as a condiment, in pies and drinks, or mixed with water and sugar and sold as a beverage. The flowers are used as a flavoring; the juice and rind are used like lemon (less tart than lemon).

Varieties:

Dominican

Key, or Mexican (*C. aurantifolia*)—less resistant to disease and smaller fruit than Tahitian limes; seedy fruit; delectable flavor

Tahitian, Persian, or Bearss (*C. latifolia*)—disease-resistant; very productive; large, seedless fruit

Equivalents:

1 box = 80 lb

3 limes = 0.25 cups juice

2 limes = 1 med. lemon

1 med. lime = 1.5–2.4 oz

= 2 tbsp juice

= 1.5 peel, shredded

Composition (juice): moisture 90%; protein 0.3%; fat 0.1%; carbohydrate 9%; ash 0.3%; pH 1.8–2.2

Storage: Lime does not keep well; it dries out quickly and loses its juiciness; store at 48–50°F; 85–90% relative humidity; storage life 6 weeks

See also **citrus fruit**

See Part 2: Citrus Fruit Storage; Essential Oils; Flavors, Beverage; Fruit and Nut Rootstock; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Juice Flavors; Fruit Storage; Lime Juice, Composition; Lime Oil, Composition; Lime Oil, Properties; Minerals (Trace), Limits; Organic Acids in Fruits and Vegetables; Storage; Transit Temperature

lime [material (calcium oxide; quicklime)] (CaO)

The second-highest-volume chemical produced in the United States; derived from limestone (CaCO_3) by heating at high temperature; aids in the hardening of egg shells; used as a soil conditioner (supplies calcium and other plant nutrients, reduces soil acidity, and improves the physical character of heavy soil). High-calcium or high-magnesium limestone rock is ground very fine to yield pulverized limestone of six possible types:

Burnt lime (quicklime)

High-calcium

High-magnesium

Pulverized lime

High-calcium

High-magnesium

Slaked lime

High-calcium

High-magnesium

Quicklime can be scattered on moist surfaces as a disinfectant. See **builder's lime; burnt lime; caustic lime; hydrated lime; lump lime; precipitated lime; quicklime; slake; water-slaked lime**

See Part 2: Fertilizer Materials; Liming Materials

lime defecation The clarification of juice with milk of lime

lime juice Quality varies with color from red (low-quality juice) to straw-colored (high-quality juice)

1 cup fresh juice = 8.7 oz

limen Threshold (of a physiological effect)

lime oil A volatile oil steam-distilled from the fruit of *Citrus aurantifolia* trees; used as a limelike flavoring agent in food

Storage: full, tight, glass container in a cool, dark place

lime pickle A sweet or salty pickle, with or without oil, made from limes

limequat A hybrid between a Key lime and a kumquat; produces an acid fruit

lime rickey A sweetened beverage made from carbonated water with 6% lime and lemon juice

430 limerick ham

limerick ham A country ham that is peat-smoked

limestone (CaCO_3) A source of lime; ordinary limestone contains min. 94% CaCO_3 ; dolomites, or dolomitic limestone, may contain large quantities of magnesium carbonate; ground limestone weighs 2.4 lb/qt; food-grade limestone is used in food to produce texture and as a release agent for chewing gum.

Composition	Limestone	
	Regular	Dolomitic
Dry matter (%)	100	99
Calcium (%)	34	22
Magnesium (%)	2	10

Storage (food-grade): well-closed container

See **agricultural limestone**; **burnt lime**; **dolomitic limestone**; **lime**

See Part 2: Fertilizer; Fertilizer Materials; Liming Materials

Limestone A hill breed of British sheep

Limestone lettuce See **Bibb lettuce**

lime-sulfur An inorganic insecticide

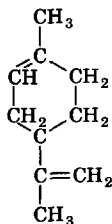
lime, Tahitian See **Tahitian lime**

limited feeding A feeding system that gives an animal less feed than it would like to eat; to reduce finishing

limiting amino acid The essential amino acids that has the greatest percentage deficit with respect to amino acid requirements

limonaya vodka A lemon-flavored vodka

limonene A flavoring compound found in orange oil



Used as a citruslike flavoring agent in food; sp. gr. 0.838–0.844

Storage: with a preservative in a full, tight, container in a cool, dark place

Limousin A breed of beef and work cattle, known for feed efficiency, from west-central France and light yellow (wheat-colored, lighter around eye and muzzle as well as head and belly areas) to golden to red, with horns spreading forward and upward

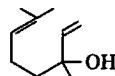
limpa A Swedish bread

limpet (*Patella vulgata*) A small, edible gastropod mollusk

linaloe oil (*Bursera delpechiana*) An essential oil obtained by distillation of the Mexican linaloe tree; used as a flowery flavoring agent in food; sp. gr. 0.876–0.884

Storage: full, tight, glass container in a cool, dark place
See Part 2: Essential Oils

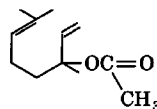
linalool A terpene alcohol found in the volatile oils of many plants



Used as a floral-like flavoring agent in food; sp. gr. 0.858–0.868

Storage: full, tight, glass container in a cool place

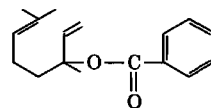
linalyl acetate



Used as a floral-like flavoring agent in food; sp. gr. 0.895–0.915

Storage: full, tight container in a cool, dark place

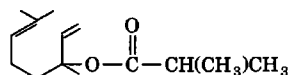
linalyl benzoate



Used as a flavoring agent in food; sp. gr. 0.980–1.000

Storage: full, tight, glass container in a cool, dark place

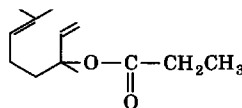
linalyl isobutyrate



Used as a fruity flavoring agent in food; sp. gr. 0.882–0.888

Storage: full, tight, glass container in a cool, dark place

linalyl propionate



Used as a floral-like flavoring agent in food; sp. gr. 0.894–0.902

Storage: full, tight, glass container in a cool, dark place

Lincoln A long-wool breed of sheep originating in northeastern England

See Part 2: Sheep Breeds

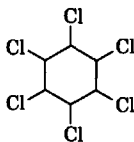
Lincoln bean See **soybean**

lincoln cheese A soft cream cheese

lincolnshire plum loaf A tea bread with currants

lincomycin A drug used to control and treat dysentery

lindane A poisonous, chlorinated hydrocarbon insecticide (gamma-benzene hexachloride)



See also **benzene hexachloride**
See Part 2: Insect Control

linden (*Tilia americana*; *T. cordata*) A large tree whose flowers are used for tea, in green salads, or to make honey

linden flower See **linden**

lindisfarne A sweet, whiskey liqueur flavored with honey

Lind, James A Scottish surgeon who wrote *A Treatise on Scurvy* and showed that scurvy could be prevented by eating oranges and lemons

line To cover the bottom and sometimes sides of a container with paper or thin slices of food

line-breeding The mating of related animals, but not animals as closely related as for in-breeding

line per square centimeter (line/cm²) A measure of magnetic flux density
1 line/cm² = 1 gauss (G)

line per square inch (line/in.²)

1 line/in.²
= 0.155 gauss (G)
= 1.55×10^{-5} weber per square meter (Wb/m²)
= 1×10^{-8} weber per square inch (Wb/in.²)
= 1.55×10^{-9} weber per square centimeter (Wb/cm²)

ling 1) Long cod, sea burbot; a large cod that is used for food and is available fresh, salted, and/or smoked
Types:

Blue (*Molva dipterygia*)
Canada—freshwater burbot (*Lota lota maculosa*)
Common (*M. molva*)
Mediterranean (*M. elongata*)
Oceania—*Genypterus blacodes*; *G. microstomus*

See **hake**

See Part 2: Vitamin D, Fish

2) Mountain cranberry See **water chestnut**

lingcod (*Ophiodon elongatus*) A finfish that is used for food, with tender, white meat, and light to moderate flavor; not a true cod but a member of a family of saltwater fish called greenlings; weighs 5–40 lb

lingende A steamed chindanda made from millet or sorghum

lingonberry (crowberry; *Empetrum nigrum*) A small, wild cranberry with a berry similar to the cranberry but not as tart; shipped in water to prevent spoilage

linguica (chovrica; linguisa; longaniza) 1) A semidry, uncooked, smoked (12 h) or unsmoked American sausage made from medium- to coarse-chopped, medium-seasoned (with garlic) pork, cured in vinegar for 2–3 days before being stuffed into a large-diameter link or ring (beef or pork) casings. 2) A fresh (can also be cured) and cooked variety of Por-

tuguese sausage, made from pork, that contains vinegar, nonfat dry milk, cinnamon, garlic, cumin seed, paprika, and red pepper

linguica mista A semidry, cooked, smoked Brazilian sausage made from medium-chopped, medium-seasoned beef and pork stuffed into pork casings

linguica tipo Calabreza A semidry, cooked, unsmoked Brazilian sausage made from medium-chopped, heavily seasoned pork stuffed into pork casings

linguica tipo Portuguesa A semidry, cooked, smoked Brazilian sausage made from medium-chopped, heavily seasoned pork stuffed into pork casings

linguica tipo Toscana A moist, uncooked, unsmoked Brazilian sausage made from medium-chopped, mildly seasoned pork stuffed into sheep casings

linguine A pasta product in the shape of long, thin, flat noodles

linguissa (longaniza) An uncooked Portuguese sausage made from coarsely ground pork butts seasoned with garlic, cumin seed, and cinnamon; cured in vinegar and smoked See **linguica**

link 1) A measure of length or distance used in surveying

1 link (surveyor's) = 7.92 inches (in.)

25 links = 1 rod

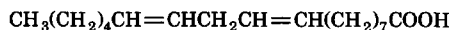
1 link (engineer's) = 12 in.

2) A section or segment of sausage. 3) To join by interlocking or external attachment; e.g., a linked-chain fence; link sausage; chemical crosslinking

See Part 2: Sausage Identification

Link, K. P. An American biochemist who discovered the antagonist to vitamin K in spoiled sweet clover

linoleic acid (9,12-octadecadienoic acid)



An essential, polyunsaturated (two cis double bonds) 18-carbon fatty acid found in drying oils (cottonseed, linseed, etc.); a fatty acid that is essential for humans See Part 2: Beans, Peas, and Nuts; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Fish and Shellfish, Composition; Fruit Composition; Grain Products, Composition; Meat Composition; Oils, Seed and Fruit; Olives and Pickles, Composition; Poultry Composition; Sausage Composition; Seed, Chemical Composition; Soups, Composition; Sugars and Sweets, Composition; Unsaturated Fatty Acids; Vegetable Composition; Wheat, Fatty Acids; Wheat Products, Composition

linolenic acid [$\text{CH}_3(\text{CH}_2\text{CH}=\text{CH})_3(\text{CH}_2)_7\text{COOH}$] A polyunsaturated (three cis double bonds), 18-carbon fatty acid found in many vegetable oils; it is a fatty acid that is essential in the diet of a human infant for complete nutrition

432 linolenic acid

See Part 2: Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Oils, Seed and Fruit; Seed, Chemical Composition; Unsaturated Fatty Acids; Wheat, Fatty Acids; Wheat Products, Composition

linseed The seed of flax (*Linum usitatissimum*)

linseed oil A fatty, drying oil obtained from flaxseed; forms a hard film by polymerization on exposure to air; used as a paint base, in linoleum, etc.; 2.80 lb flaxseed yields 1 lb oil; acid number 3.42; sp. gr. (20°/4°C) 0.9297

	Smoke point		Flash point		Fire point	
	°F	°C	°F	°C	°F	°C
Raw	325	163	540	287	667	353
Refined	320	160	588	309	680	360

See Part 2: Fats and Oils, Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids

linseed meal A meal made from flaxseed; used as animal feed

Composition	Flaxseed	
	Mechanical extraction	Solvent extraction
Dry matter (%)	91	90
Protein (%)	34	34.5
Fat (%)	5.5	1.5
Fiber (%)	9	9
Ash (%)	6	6

1 lb meal = 1.56 lb flaxseed

New Process yields 29 lb/bu or 0.9 lb/qt.

See Part 2: Oil Meals, Composition

linuron See Part 2: Corn Herbicides

linusic acid See Part 2: Fatty Acids and Their Properties

lionesa A moist, cooked, smoked Uruguayan sausage made from finely chopped, mildly seasoned beef, with flour, stuffed into beef or artificial casings

lip 1) The "vee" projection below a double seam, caused by the cover-hook metal. 2) See Part 2: Beef Rib Nomenclature

lipase Any of a class of enzymes that catalyze the hydrolysis of fats to glycerol and fatty acids; found in gastric and pancreatic juices and produced by the liver, the pancreas, and some microorganisms

See Part 2: pH Values of Biological Materials

lipid A general term for fats, oils, and similar substances (such as waxes, hydrocarbons, lipids containing carbohydrate or phosphate, sterols, fat-soluble vitamins, essential oils, etc.); lipids occur in all living cells and are the major constituent of adipose tissue; lipids are nonpolar substances that are insoluble in water but soluble in ether and other fat solvents; in particular, substances of biological origin that are soluble in ether and insoluble in water See also fat;

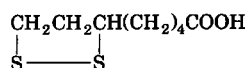
fatty acid

See Part 2: Egg Products, Nutritive Value

lipin A lipid

lipochrome A lipid material that contains a color, e.g., the pigments in butter, egg yolk, and corn

lipolic acid (6,8-thioctic acid) A growth factor for several microorganisms



lipolysis The breakdown of fats, involving the breaking of a triglyceride into glycerol and fatty acids

lipolytic Fat-seeking; descriptive of the action of lipase enzymes

lipoprotein A molecule containing lipids and amino acids; often found in cell membranes and nerve tissue

lipski A medium-flavored, semisoft cheese

lipski sir A soft cheese

liptau A sharp, Hungarian cheese made from sheep's milk; often contains red peppers

liptauer (liptai) A sour, processed cheese made from ewe's or goat's milk and flavored with butter, caraway, onion, and paprika

liptoi turo A soft, white, creamy cheese made from ewe's milk

liqueur A spirit-based alcoholic beverage that is flavored with spirit-extracted fruits or herbs or that is modified with cream, coffee, or chocolate and sometimes sweetened; a sweetened, flavored, and/or scented potent spirit (27–80% alcohol); cordials are a subdivision of liqueurs.

Crèmes—very sweet

Eaux or elixirs—less sweet

See cordial

liqueur des Moines A yellow liqueur based on cognac digestive

liqueur glass 1 glass = 1 oz

liquidated damages Damages for breach of contract, determined and agreed upon by the contract parties

liquidation The sale of a contract to offset a previously made purchase, or the purchase of a contract to offset a previously made short sale

liquid cook To cook food in a moist atmosphere

See Part 2: Beef Cuts; Beef Cuts and Uses; Cooking in Liquid, Time; Lamb Cuts; Lamb Cuts and Uses; Liquid Cooking of Meat; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Simmering Meat; Variety Meat, Cooking; Variety Meat Preparation; Veal Chart; Veal Cuts; Veal Cuts and Uses; Vitamin Retention, Meat

liquidity The ability to supply funds or raise money by selling assets

liquid petrolatum See mineral, oil, white

liquid smoke A flavoring agent derived from or resembling wood smoke

liquor 1) Ethyl alcohol with water and flavoring; a distilled alcoholic beverage (e.g., brandy, gin, rum,

whiskey), as opposed to fermented beverages (e.g., wine and beer)

1 fifth = $\frac{1}{5}$ gal (U.S.)

= 16–17 $1\frac{1}{2}$ -oz jiggers

1 qt = 20–21 $1\frac{1}{2}$ -oz jiggers

Four jiggers contain 6 oz of liquor; average consumption at a cocktail party 2–4 drinks per person; average number of pre-dinner cocktails 2–3 drinks per person

Number of persons	Consumption*		
	Total (oz)	Fifths	Quarts
4	24	1	0.75
6	36	1.5	1.13
10	60	2.5	2
12	72	3	2.25

*Four drinks per person ($1\frac{1}{2}$ oz liquor per drink) at a 3- to 4-hour party

2) A concentrated water solution of sugars (mother liquor). 3) The aqueous solution of juices, fats, and other water-soluble components remaining after a food product is boiled

licorice A perennial herb whose roots are extracted to yield a black, bittersweet confectionery *See licorice*

Listeria A genus of microorganisms responsible for food poisoning

See Part 2: Microorganism, Media

list price The price published in a catalog or other publication

litchi (litchee; lychee; *Litchi chinensis*; *Nephelium litchi*) A medium-sized tree that bears bunches of plum-sized, round to oval-shaped, crimson fruit with a warty rind; the jellylike, edible pulp (cream to white) surrounds a single, large, brown seed. The pulp has a sweet-acid flavor and is eaten fresh, canned, preserved in syrup, and made into litchi nuts (which resemble raisins) by drying; the flavor of fresh and dried fruit is very different

Varieties: Mauritius; Sweetcliff

Composition	Dried	Raw
Moisture (%)	22	82
Protein (%)	4	0.9
Fat (%)	1.2	0.3
Carbohydrate (%)	71	16
Ash (%)	2	0.5

See also lychee; lychee browning

lite A variant of the word light that is often used in product names to indicate a low level of some constituent; there is no legal definition, but a list of nutritional analysis (including calories) is required.

liter (l; litre) A measure of volume

1 l = 16894 minims (Brit.)

= 16231 minims (U.S.)

= 1000.027 cubic centimeters (cm³)

= 1000 milliliters (ml)

= 270.5179 drams (U.S., fluid)

= 100 centiliters (cl)

= 61.0234 cubic inches (in.³)

= 35.196 ounces (oz; Brit., fluid)

= 33.814 ounces (oz; U.S., fluid)

= 10 deciliters (dl)

= 2.11336 pints (pt; U.S., fluid)

= 1.0567 quarts (qt; U.S., liquid)

= 1 cubic decimeter (dm³)

= 0.9081 dry quart (qt; U.S., dry)

= 0.8990 quart (qt; Brit.)

= 0.264178 gallon (gal; U.S., liquid)

= 0.22702 dry gallon (gal; U.S., dry)

= 0.21998 gal (gal; Brit.)

= 0.1 decaliter (dal)

= 0.03531 cubic feet (ft³)

= 0.02838 bushel (bu; U.S., dry)

= 0.01 hectoliter (hl)

= 8.387×10^{-3} barrel (bbl; U.S.)

= 0.001308 cubic yard (yd³)

= 1×10^{-3} cubic meter (m³)

See Part 2: Water, Weight and Volume

liter per hectare (l/ha) Volume per unit area

1 l/ha = 0.107 gallon (U.S.) per acre

[gal (U.S.)/acre]

= 0.089 gallon (Imp. or Brit.) per acre

[gal (Imp. or Brit.)/acre]

liter per minute (l/min) Rate of flow

1 l/min = 4.403×10^{-3} gallon (U.S.) per second

[gal (U.S.)/s]

= 3.666×10^{-3} gallon (Brit.) per second

[gal (Br.)/s]

= 5.885×10^{-4} cubic feet per second

(ft³/s)

lites *See* lights

lithium (Li) A metallic element; at. no. 3; at. wt. 6.940; Group IA of the Periodic Table; oxidation state +1;

electron configuration 2–1

orbit K L

litmus An indicator of pH values; in an acid solution it is red, in a basic solution it is blue, and in a neutral solution it is lavender; its pH range is from 4 to 8. *See also* lichen

litmus milk A medium used for propagating and maintaining stock cultures of lactic acid bacteria found in dairy products and in determining the action of bacteria upon milk; the reduction of litmus is useful in differentiation.

See Part 2: Microorganism, Media

litter 1) Bedding; straw or other material used in chicken houses or as bedding for other animals. 2) The pigs born to a sow. 3) The offspring born at one parturition

little cabbages Brussels sprouts of large size, which are therefore less desirable

littleneck Small, hard-shell clams, so named from Little Neck, Long Island *See also* quahog

little tuna A food fish

Pacific, Indian—*Euthynnus affinis*

Atlantic, Mediterranean—*E. alletteratus*

See tuna

Littman oxgall agar *See* Part 2: Microorganism, Media

livarot A strong-flavored, light terra-cotta colored cheese made from cow's milk; it is encased in a girdle

of dark, chestnut green threads (made of hollow reeds) that keep the cheese in shape while softening; a soft cheese with a brine-washed rind; a soft to semisoft, strong-flavored cheese made from cow's milk and ripened by surface bacteria

liver A large, glandular, purple organ used as food (an edible variety meat); it produces and secretes bile, purifies the blood, and stores glycogen; weighs 6.5–10 lb in small cattle and 11–13 lb in large cattle; good source of nutrients

To prepare for cooking: wash; remove outside membrane; slice $\frac{1}{2}$ in. thick.

The cells of the liver are polygonal in shape with a large central nucleus; the cells are arranged in columns and radiate from a central vein.

Composition (raw): moisture 70–72%; protein 19–21%; fat 3.5–5%; carbohydrate 2.5–5.3%; ash 1.3–1.5%; cholesterol 372 mg/3 oz

Storage: Coldest part of refrigerator; use within 1–2 days.

See Part 2: Ascorbic Acid; Beef Cuts and Uses; Calories, Daily Recommendations; Cholesterol Control; Food, Composition; Gland Weights; Iron, Daily Recommendations; Lamb Cuts and Uses; Liver; Meat Composition; Meat, Servings per Pound; Minerals, Food; Moisture in Biological Materials; Niacin, Daily Recommendations; Nicotinic Acid, Food; Organ Weights; Pantothenic Acid Content; Pork, Cooking Yield; Pork Cuts and Uses; Portion Size; Poultry Dressing Percentage; Riboflavin, Daily Recommendations; Riboflavin, Food; Storage Times; Thiamin, Daily Recommendations; Thiamin, Food; Unsaturated Fatty Acids; Variety Meat, Cooking; Variety Meat, Percentage of Daily Recommended Allowances; Variety Meat Preparation; Veal Cuts and Uses; Vitamin A, Daily Recommendations; Vitamin A, Food

liver abscess(es) Single (or multiple) inflammation (a localized collection of pus and disintegration of tissue) of the liver

liver cheese **Composition:** moisture 53.6%; protein 15.2%; fat 25.6%; carbohydrate 2%; ash 3.5%; sodium 245 mg/slice (20 g) **See liver loaf**

liver, desiccated Used as a dietary supplement

liver fungus **See** *Fistulina hepatica*

liver infusion agar **See Part 2:** Microorganism, Media

liver loaf Similar to liver sausage except with more body and molded into a brick that yields sandwich-sized slices

See Part 2: Sausage, Types

liver oil **See Part 2:** Oils and Fats, Composition

liver paste A soft, spreadable sausage

liver paté A finely chopped, cooked, unsmoked, jellyed and/or specialty American sausage that is canned sterile or shelf-stable and is available in rings or loaves

liver sausage (braunschweiger; leberwurst; liverwurst) 1) A sausage product made from pork, beef, or veal, with pork liver and bread; min. 30% liver; cooked to an internal temperature of 145–165°F. 2) A moist, cooked, smoked or unsmoked jellyed and/or specialty American sausage made from fine- to coarse-chopped, mildly seasoned (with onions, spices,

and sometimes bacon) beef, pork, veal, lamb, and goat with beef and pork by-products, pork skin, and pork, sheep, and goat livers (usually pork and pork liver) and stuffed into pork or artificial casings and available in rings or loaves; when smoked or of a good grade, it is often called braunschweiger.

Composition: moisture 52%; protein 14%; fat 28.5%; carbohydrate 2.3%; ash 3%

2) A moist, cooked, unsmoked British sausage made from fine- or medium-chopped, mild- or medium-seasoned beef, lamb, veal, and goat stuffed into beef, pork, or artificial casings

See Part 2: Sausage Identification; Sausage Nutritive Value

liver sausage, Irish A moist, cooked, smoked or unsmoked Irish liver sausage finely chopped, mild- or medium-seasoned pork stuffed into artificial casings

liver sausage, Kosher A moist, cooked, smoked American sausage made from finely chopped, mildly seasoned (with garlic), beef, lamb, veal, and goat stuffed into artificial casings; must be produced under rabbinical supervision

liver veal agar **See Part 2:** Microorganism, Media

liverwurst 1) A smooth-textured liver sausage; a cooked sausage made of finely ground pork and liver seasoned with onions and spices; when smoked it is called braunschweiger. 2) A moist, cooked, unsmoked Australian sausage made from finely chopped, medium-seasoned beef stuffed into an artificial casing **See liver sausage**

livestock Domesticated animals that are raised for meat, milk, or to use as draft animals

livestock weather safety index

Relative humidity (%)	Temperature (°F)					
	75	80	85	90	95	100
5	A	A	A	A	A	D
10	A	A	A	A	A	D
15	A	A	A	A	A	D
20	A	A	A	A	D	D
25	A	A	A	A	D	E
30	A	A	A	D	D	E
35	A	A	A	D	D	E
40	A	A	A	D	E	E
45	A	A	A	D	E	E
50	A	A	D	D	E	E
55	A	A	D	D	E	E
60	A	A	D	E	E	E
65	A	A	D	E	E	E
70	A	A	D	E	E	E
75	A	A	D	E	E	E
80	A	D	D	E	E	E
85	A	D	E	E	E	E
90	A	D	E	E	E	E
95	A	D	E	E	E	E
100	D	D	E	E	E	E

A = alert

D = danger

E = emergency

live weight The weight of an animal before slaughter

livlander cheese A sharp, pungent, German cheese made from sour milk **See hand cheese**

lizard fish (*Chlorophthalmus albatrossis*) A food fish

llama A long-haired ruminant of South America
See Part 2: Milk, Mammals, Composition

llanero (queso llanero) A strong-flavored, acid curd cheese made from partly skimmed cow's milk and sometimes flavored with caraway seed

llymrŷ A sour gruel made from buttermilk and oatmeal

LM agar See Part 2: Microorganism, Media

LMM Light meromyosin

LNF Liquid nitrogen frozen

In *n* Natural logarithm (base *e*) of *n*

$$\ln n = 0.4343 \log_{10} n$$

loach (minnow; *Tiaroga cobitis*) A small, freshwater food fish

load line The highest point to which food should be stacked in a refrigerated case

loaf 1) The usual unit of size in which bread is produced (normally from 1 to 1.5 lb). 2) A mixture of chopped meat (often a mixture of beef and pork) with bread crumbs, spices, etc., that is baked in a definite (noncylindrical) shape or mold; max. 3% added moisture in meat products. 3) A moist, cooked, smoked or unsmoked American sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef, pork, and veal that may contain binders, extenders, pimento, olives, cheese, onion, pistachio nuts, flavorings, cubed meat, etc., and may be pressed, formed, molded, or sliced; the product is cured, cooked in molds or stuffed into beef or artificial casings.

See Part 2: Pork, Cooking; Pork Loin Cooking; Portion Size; Sausage Identification

4) A package of cheese in the shape of a brick, weighing approximately 5 lb

loaf cheese A processed American cheese sold in loaf form

loam Soil that contains clay, sand, humus, and/or silt and that holds water but also drains

See Part 2: Soil Classes

loan forfeiture The forfeiting of commodities or property placed under loan instead of repaying the loan in cash

loan ngon-gon See **longan**

loan rate The price per unit (e.g., bushel, bale, pound) at which the government will make loans to farmers to enable them to hold their crops for sale later See **non-recourse loans**

lobbyist An individual or a representative of an organization who attempts to influence decisions made by members of Congress and by other government officials

lo bok See **Chinese turnip**

lobscouse A mixture of meat, vegetables, and biscuit

lobster A lean marine crustacean; a shellfish; also a spiny sea crayfish (*Palinurus* sp.); is 20–50% edible (avg. 20% protein); the meat is snow-white and lean; a large lobster is less tender than a medium lobster, and claw meat is more tender than tail meat.

Types:

American, Northern, or Maine (*Homarus americanus*)—large claws; 1–5 lb; caught in New England, Canada, and the North Atlantic; available live, whole, or cooked (as cooked meat and in soups, bisques, and dips)

European lobster—(*H. vulgaris* or *H. gammarus*) Norway lobster—(*Nephrops norvegicus*)

Rock—has small claws; tail often marketed separately (rock lobster tail); caught in South Africa, along the U.S. coast, and in Australia, New Zealand, Brazil, and Ecuador

Slipper

Spiny—has small claws; lives in tropical and subtropical waters; usually marketed as 2-oz to 2-lb frozen lobster tails; caught in British Honduras and in Haiti

To cook (by boiling): Place in boiling water (3–4% salt solution); start timing when water boils again:

1–1.25 lb—boil 10–12 min

1.5–2 lb—boil 15–18 min

2–2.5 lb—boil 20–25 min

2.5–3 lb

6–14 lb (deep-sea lobster)

Market forms and terms:

Canned—in its own juice, in jelly, or in sauce

Chicken—a small lobster

Fresh—a whole, boiled lobster or cooked lobster meat

Frozen—raw or cooked; whole lobster or tails only

Live—will remain alive up to 36 h after capture

Paste—max. 2% cereal

Soup

Two-claw (*H. americanus*):

1 lobster = $\frac{3}{4}$ –3 lb

one 2½-lb lobster = 1 lb meat

one 1-lb lobster = 8 oz tail

Spiny (does not have heavy claws):

1 tail, avg. = 2–8 oz

one 1-lb lobster = 4–5 oz meat, cooked

= 1 cup meat, cooked

= 5 oz canned lobster

Servings:

Form served

Meat [1 cup = 155 g (5.4 oz)]—4 oz per serving

Tail—8 oz per serving

Whole—16 oz per serving

As purchased

In shell—purchase 12 oz per serving (22–25% yield)

Tails only—purchase 6 oz per serving (50–66% yield)

Tail is about one-third of the total weight of a lobster.

Grades (New England lobster):

Chicken— $\frac{3}{4}$ –1 lb

Quarters—1¼–1½ lb

Large—1½–2½ lb

Jumbo—over 3 lb

Composition	Tail meat, raw	Whole
Moisture (%)	77	
Protein (%)	20	16.9
Fat (%)	2	1.9
Carbohydrate (%)	< 1	0.5
Ash (%)	1.5	

436 lobster

Cholesterol (raw tail meat) 71 mg/3 oz; sodium (boiled) 212 mg/3 oz (85 g)

See **crayfish**

See Part 2: Cholesterol Control; Fish, Storage; Frozen Food Storage; Lobster; Minerals, Food; Portion Size

lobster, Norway See **Dublin bay prawn**

lobster paste Composition (canned): moisture 62%; protein 21%; fat 9%; carbohydrate 1%; ash 7%

lobster sauce A sauce that is used over lobster and shrimp

local food Food that is consumed in the vicinity of where it is produced

local gin A clear, crudely distilled, alcoholic spirit

lochan ora A sweet whiskey liqueur flavored with honey

lockjaw See **tetanus**

locks A variant of lox See **lox**

locorotondo White wine produced in southeastern Italy

locoweed A plant having a toxic principle
See Part 2: Poisonous Plants

locules A cell or cavity
See Part 2: Orange Structure

locust bean, African (*Parkia* spp.) Any of several trees (10–30 m tall) whose dry seeds are fermented as a flavoring; the pulp of the fruit is cooked as food.

locust bean gum (carob seed gum; gum gatto; gum tragon; jandagum; St.-John's-bread) The refined endosperm of the seed of the carob evergreen tree (*Ceratonia siliqua*); composed of D-mannose and D-galactose units of mol. wt. 310,000; it is used in the food industry as a suspending agent, thickener, food stabilizer, emulsifier, as a natural flavoring agent, and to prevent graininess in ice cream; also used in cheese; the tree's fruit may be eaten fresh or dried; the seed is sweet-flavored and fragrant.

Storage: well-closed container

See **carob pod**

See Part 2: Gum Characteristics; Gums, Physicochemical Properties; Stabilizers, Thickeners

lodging The falling over of a plant

lodigiano A hard, dry, low-fat grating cheese (30–50 kg) that is made from cow's milk and has small to large holes, greenish to yellow color, and sharp or strong (matured up to 5 yr) flavor

Loeffler blood serum See Part 2: Microorganism, Media

loganberry (*Rubus loganobaccus*) A hybrid of a dewberry or blackberry and a raspberry; a variety of red-fruited dewberry or trailing blackberry; it bears a fruit similar to a blackberry except that the color is dull red and the acid content higher; the oblong berries (2 in. long) are tart when green; they are used fresh, canned, in pies, and in preserves.

Frozen style:

Whole—with or without sugar or syrup

Canned styles:

Choice—whole; in 50° Brix syrup

Fancy—whole; uniform size; in 70° Brix syrup

Water or pie—in water for bakery

Equivalents:

100 lb fresh berries = 17–22 lb dried berries

1 crate (24 qts) fresh = 32–36 pt frozen

1 pt, frozen = 1.3 to 1.5 pt fresh

1 cup, fresh, trimmed = 5.1 oz

Composition (raw): moisture 83%; protein 1%; fat 0.6%; carbohydrate 15%; ash 0.5%; pH 3.1

See Part 2: Fruit Classification; Fruit, Frozen Yield; Fruit Harvest Dates; Minerals, Food

loganberry, canned In addition to loganberries, may also contain natural and artificial flavors

Sucrose in syrup:

Extra light—< 14%

Light—14–19%

Heavy—19–24%

Extra heavy—24–35%

loganberry nectar Nectar pressed from loganberries and mixed with sugar prior to bottling

logarithm (log) If $a^x = y$, then $x = \log_a y$.

power logarithm base a

$\log_x x = 1$ and $\log_y 1 = 0$

To change base:

$\log_e y = 2.303 \log_{10} y$

$\log_{10} y = 0.4343 \log_e y$

The components of a logarithm are the characteristic and mantissa, e.g., for

$x = \log_{10} 50 = 1.699$

Characteristic:

The number to the left of the decimal point in the logarithm

1.699—1 is the characteristic.

Gives the position of the decimal point in the number y and changes as follows:

$\log_{10} 8 = 0.9031$

$\log_{10} 8000 = 3.9031$

$\log_{10} 0.0008 = 4.9031$ (where the overbar indicates a negative characteristic)

Mantissa:

The number to the right of the decimal point in the logarithm

1.699—699 is the mantissa.

Used to find the antilogarithm—by finding the mantissa in a table of logarithms

1.699—finding 699 in a table of common logarithms yields 50 as the antilogarithm of 1.699.

Base 10 is assumed in the following operations.

Multiplication (e.g., $200 \times 4 = 800$):

1. Change each number to its logarithm.

2. Add the logarithms.

$$2.3010 + 0.6021 = 2.9031$$

3. Find the antilogarithm.

$$\text{antilog } 2.9031 = 800$$

Division (e.g., $900 \div 45 = 20$):

1. Change each number to its logarithm.

2. Subtract the logarithms.

$$2.9542 - 1.6532 = 1.3010$$

3. Find the antilogarithm.

$$\text{antilog } 1.3010 = 20$$

Powers (e.g., $3^4 = 81$):

1. Find the logarithm of the base number.

$$\log 3 = 0.4771$$

2. Multiply by the power.

$$0.4771 \times 4 = 1.9084$$

3. Find the antilogarithm.

$$\text{antilog } 1.9084 = 81$$

Roots (e.g., $\sqrt[5]{243} = 243^{1/5} = 3$):

1. Find the logarithm of the radicand.

$$\log 243 = 2.3856$$

2. Divide by the root.

$$2.3856 \div 5 = 2.3856 \times \frac{1}{5} = 0.4771$$

3. Find the antilogarithm.

$$\text{antilog } 0.4771 = 3$$

See also **logarithm, negative**

See Part 2: Constants, Fundamental

logarithm, base 10 (log; \log_{10}) In chemistry and algebra (not mathematics), if the base is not given, it is assumed to be base 10.

logarithm, base e (ln; \log_e ($e = 2.71828$)) In mathematics (not algebra), if the base is not specified, it is assumed to be e .

logarithmic growth phase A stage in bacterial growth that follows the lag phase and during which cells grow and divide at a constant rate

logarithm, negative The mantissae listed in tables are always positive. When calculating a multiplication or division (i.e., the addition or subtraction of logarithms) there is no problem.

For example:

	negative	positive	
0.05	2 · 6990		
× 0.04	+ 2 · 6021		
0.0020	3 · 3011		antilog = 0.002

x.xxx (negative and positive)—The form used in multiplication or division (addition and subtraction of logarithms) and for looking up in a table
-x.xxx (all negative)—The form used in powers and roots (i.e., multiplication or division of logarithms)

For example:

$$\begin{aligned} \log_{10} 0.005 &= \bar{3}.699 = -3.000 + 0.699 \text{—the form} \\ &\text{used in calculating multiplication and} \\ &\text{division and in table lookup} \\ &= -2.301 = -2.000 - 0.301 \text{—the} \\ &\text{form used in calculating powers and} \\ &\text{roots but not in table lookup} \end{aligned}$$

The all-negative form is obtained as follows:

$$-3.000 + 0.699 = -2.301$$

To change this back to a form that can be looked up in a table (i.e., positive mantissa), subtract 1 from the characteristic and add 1 to the mantissa:

$$-2 - 1 = -3 \quad (\text{characteristic})$$

$$-0.301 + 1.000 = +0.699 \quad (\text{mantissa})$$

Giving $\bar{3}.699$, which can be found in a table to be the logarithm of 0.005.

For example, $\sqrt{0.0016} = 0.04$:

$$\bar{3}.2041 = -3.000 + 0.2041 = -2.7959$$

$$-2.7959 \div 2 = -1.39795$$

$$= \bar{2}.60205 \xrightarrow{\text{table}} 0.04$$

logudoro A soft, white cheese that is made from sheep's milk, drained in baskets, and cured 3–4 weeks

-logy A suffix that is used to indicate a science or a treatise

loin The region of the back between the last (caudal) ribs and the hip; the lumbar region; the backbone and loin-eye muscle area of a carcass; for hogs, the trimmed loin is 15% of carcass; for choice steers it is 17%.

See Part 2: Beef, Boneless Cuts; Beef Chart; Beef Cuts and Uses; Beef Retail Yield; Beef Wholesale Cuts; Beef Yields; Bone in Retail Cuts; Broiling Time and Temperature; Lamb Chart; Lamb Cuts; Lamb Cuts and Uses; Lamb, Wholesale Cuts; Meat Identification; Meat Label; Minerals, Food; Pork Carcass, Retail Yield; Pork Chart; Pork, Cooking; Pork, Cooking Methods; Pork Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Loin Carving; Pork Loin Cooking; Pork Loin Nomenclature; Pork Wholesale Cuts; Pork Yield; Roasting, Time and Temperature; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting; Veal Wholesale Cuts

loin center The middle portion of the loin after removal of the blade and sirloin ends; the ribeye and tenderloin are the major muscles.

loin chops See Part 2: Lamb Yield

loin end The rear area of the loin up to the front of the hip bone; it contains the butt end sirloin, wedge bone sirloin, round bone sirloin, double bone sirloin, and pin bone sirloin.

Blade, or rib end—5–7 ribs and blade bone

Loin end—hip or sirloin section

loin eye See **longissimus dorsi**

See Part 2: Meat Identification

loin halves The loin half should contain 1 or 2 ribs; the rib half should contain at least 10 ribs

loin strip The top muscle found in the short loin; often cut into strip steaks

Loire A region (including the provinces of Anjou and Touraine) in west-central France that produces wines

of distinctive characters; also the name of a river that flows through the region

Area	Wine type
Bourgeuil	Fresh, red
Chinon	Fresh, red
Pouilly-sur-Loire	White
Saumur	White; some red
Touraine (around Vouvray)	Green-gold; sparkling

lokanta Restaurant

lokrull A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, medium-seasoned, beef and pork not stuffed into a casing

lola (lolita) A small-sized, dry, uncooked, unsmoked Italian-American sausage (salami) made from coarsely chopped, mildly seasoned (garlic) pork fermented and stuffed into a pork or artificial casing; lola is made in 2½-oz links and lolita in 14-oz links. *See lolita*

lolita An Italian, coarsely chopped, larger dry salami seasoned with garlic; (14-oz links); larger than lola *See lola*

lollipop A clear, hard candy, usually placed on a stick

lombardo A hard, strong dry, low-fat grating cheese made from cow's milk, with large holes and greenish color

lo mein Moist noodles mixed with meat and vegetables

lomi lomi salmon A mixture of dried salmon, tomatoes, and onions

London broil Not a specific cut of beefsteak but usually top quality flank steak, boneless thick-cut chuck, top round, or tip; broiled (rare or medium) and sliced thinly on the diagonal

London dry gin A dry, clear, distilled spirit that is high in alcohol and flavored with juniper berry

long The market position of a futures contract buyer whose purchase obligates him or her to accept delivery unless he or she liquidates the contract with an offsetting sale

longan (dragon's eye; lungan; *Dimocarpus longan*; *Euphoria longana*; *Nephilium longana*) A Southeast Asian, lycheelike tree that produces clusters of sweet, pulpy fruit (1-in. diam.) with a smooth, brown outer shell; the fruit is similar to the lychee but less tart.

Available forms: canned (seen loan-ngon); dried (loan ngon-gon); fresh

Variety: Kohala

longanissa A semidry, uncooked, unsmoked French sausage made from medium-chopped, heavily seasoned beef and pork fermented and stuffed into pork or sheep casings

longaniza 1) A dry or semidry, uncooked, smoked Uruguayan sausage made from coarsely chopped, heavily seasoned beef and pork stuffed into beef or artificial casings; a semidry sausage made from medium-chopped beef or pork flavored with aniseed and pimento. 2) A fresh (or cured and smoked) Puerto Rican sausage made from beef and pork that is flavored and colored with annatto (annotto, arnatto) *See lingua*

longaniza, a la española A dry, uncooked, unsmoked Argentinean sausage made from coarsely chopped, medium-seasoned (with marjoram, white wine, white sugar, red pepper, grains of fennel, chili, salt, and nitrite) beef and pork, with backfat, stuffed into pork casings

longaniza fresco A medium- to coarse-chopped, uncooked, smoked or unsmoked American sausage that is available in fermented and/or dry or semidry links, rings, or large-diameter casings

long-fed cattle Cattle fed in a feedlot for over 130 days (4–6 months, or longer)

longfin General name for any of several fish of the family Serranidae

longhorn A shape of cheese (bottom diam. is 7 in., top diam. 5 in., height 10–14 in., and weight 10–16 lb)

longhorn cheese A solid, yellow-orange, usually mild-flavored, version of cheddar cheese, usually in a foot-long cylinder, about 8-in. diam.; also made in small, 2-lb cylinder sizes

longhorn sculpin (*Myoxocephalus octodecem-spinosus*) A food fish

Long Island duck A duck breed that is descended from Peking duck

longissimus costarum A long muscle of the back, running from the spinous processes of the lumbar vertebrae to the ribs; it is located between the spinous and transverse processes and from lateral to ventral of the longissimus dorsi as it proceeds from lumbar to rib section.

longissimus dorsi (loin eye; rib eye) A long muscle of the back, running from the neck area to the sacrum and ilium; it is located between the spinous and transverse processes.

See Part 2: Beef Rib Nomenclature

Long Lop-Eared White (Devonshire White) A British breed of white swine

long milk A thick, ropy, low- to medium-acid (pH 4.4–4.7), fermented cow's milk

long potato *See sweet potato*

long saddle A wholesale cut of veal or lamb consisting of all the area in back of the fourth rib; the quarters are not split.

longtails Sheep with tails

longus colli A muscle of the neck area that lies under the cervical and first four thoracic vertebrae; the trachea lies below its lower surface.

long-wool mutton-type sheep A classification of sheep that includes the following breeds: Cotswold, Leicester, Lincoln, and Romney
See Part 2: Sheep Breeds

long yearling Cattle almost 2 yr old

Lonk A hill breed of British sheep

lontjom Groundnut presscake

loofah gourd (dishcloth gourd; snake squash; *Luffa cylindrica*) A cucumber-like fruit used in Chinese cookery

loogpang (luk-paeng) Gray-white, dried balls of starter, containing bacteria, molds, and yeast on a rice base; used as inoculum for fermented foods

look fun (look funn) Broad, rice noodles

loo rong A steamed, rice-based, arrack beverage

loose-kernel smut See Part 2: Sorghum Diseases

loose smut (*Ustilago tritici*) A disease of wheat in which the heads are replaced by black masses of smut

loosra Strong-flavored, dried, salted fish; used as a flavoring

loprivshvenska loukanka A chorizo made from medium-chopped beef and pork

loquat (Japanese medlar; *Eriobotrya japonica*) A small evergreen that produces a yellow-orange, pear-shaped fruit the size of a crab apple (up to 3 in. long); the fruit has a sweetish, acid flavor and yellow to white flesh that encloses a few large seeds; it is eaten fresh, stewed, as jam or jelly, or made into liquor.

Varieties: Champagne; Gold Nugget (Thales); Wolfe
Composition (fruit, raw): moisture 86%; protein 0.4%; fat 0.2%; carbohydrate 12%; ash 0.5%

lormes A valençay-type cheese made from goat's milk

lorraine A small, hard, münster-type French cheese made from sour cow's milk and seasoned with pepper and pistachio nuts

loss leader An item sold at less than cost in order to attract customers

lot A collection of items that have many characteristics in common (e.g., produced or processed under essentially the same conditions during a specific time period indicated by a specific code) and that are grouped together from which a sample is taken

lota (*Lota lota*) A freshwater burbot

lotic environment In running water (e.g., a river)

lot-sampling inspection A method of sampling inspection that accepts or rejects each lot for a specified requirement based on results obtained from the examination of a sample drawn at random from the lot

lot size The amount of a particular item that is ordered from a plant or a vendor

lot tolerance (percent defective) See rejectable quality level

lotus (*Nelumbium nuciferum*) A large-leaved water plant that is used as food

Parts used:

Flower stem and leaves—used in salads

Fruit—used after removal of seeds

Leaves—used to wrap food

Rhizome (red-brown)—roasted, steamed, pickled, or used to prepare an arrowroot-like substance

Seed—bitter embryo removed; the remainder is boiled, roasted, eaten raw, made into jam, or used in pastries

Available forms: canned; dried, sugared; fresh

See Part 2: Seed, Chemical Composition

loubitelski A camembert-type cheese made from cow's milk

loucanica, cocktail-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

loucanica, Frankfurt-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned pork stuffed into sheep casings

loucanica, Limpert-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into sheep casings

loucanica, Strasburg-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into sheep casings

loucanica, Vienna-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into sheep casings

Lou Gim Gong A variety of late Florida orange

Louisiana cala A rice-based confection

loukanika 1) A medium- to coarse-chopped, unsmoked American sausage, large-diameter links or rings. 2) An uncured Greek sausage; usually made from lamb, pork, and oranges, with allspice, salt, and whole peppercorns

loukoumade A wheat-flour doughnut coated with sugar, honey, and cinnamon

Loupiac A commune on the north bank of the Garonne River in Bordeaux (southwestern France) that produces a medium-rich, high-quality white wine that is sometimes sweet

lour A ricotta-type cheese that is made from sheep's milk and consumed fresh

lovage [smallage (*Apium graveolens*): *Levisticum officinale*] A tall, perennial, celery-flavored herb; the young leaves (fresh or dried) and young stems are used in salads or cooked (soups and sauces); the seeds are used as flavoring; the roots are chewed as tobacco; a yellow-brown oil is extracted from the roots and other parts and used as a natural flavoring agent in food

Types:

American lovage (*L. officinale*)

Scotch lovage (*L. scoticum*)

lovage oil A volatile oil obtained by steam distillation of the root of *Levisticum officinale*; used as an aromatic flavoring agent in food; sp. gr. 1.034–1.058

Storage: full, tight, glass container in a cool, dark place

love apple See tomato

lovecky salam A beef and pork salami

lovell A variety of freestone peach

Lovibond color The proprietary name for an official color scale of the American Oil Chemists' Society; a series of yellow and red glass discs are used to match the color (Tintometer)

low-acid canned food Food with a pH greater than 4.6 and water activity greater than 0.85, e.g., vegetables, fish, meat, and poultry; heat processing is necessary for sufficient time to kill *Clostridium botulinum* spores.

low-acid food Any food (excluding alcoholic beverages) with a pH above 4.6 (greater than 4.6) and a water activity greater than 0.85; includes all vegetables except *some* tomatoes; low-acid foods require pressure processing; pH 4.4 is often used as the highest permissible value for processing at 100°C.

See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH

lowberry A hybrid blackberry that is less acid than a loganberry

low-calorie Describes a food that contains 40% fewer calories per serving than the standard version of that food

low-density lipoprotein (LDL) Molecules that carry fat (mainly cholesterol) in the bloodstream; involved in the creation of fatty deposits on the walls of the arteries

low dose In food irradiation, a dose less than 1 kGy [1 Gy (gray) = 100 krad]

Lowenstein See Part 2: Microorganism, Media

lower control limit The limit above which the variables of a process (e.g., the occurrence of defectives) should fall if the procedure is in control

low-fat See Part 2: Dairy Terms

low-fat milk Must have milk-fat content between 0.5 and 2% (label must show 0.5, 1.0, 1.5, or 2%), with min. 8.25% nonfat milk solids; addition of vitamin A is required; addition of vitamin D is optional.

low-fat soy flour A soy flour having 5–6% fat and 50% protein

low-grade flour A grade of flour lower than second clear flour; used primarily as stock feed See also **clear flour**

low-set Describes an animal with short legs

lox 1) A marketing name for chinook salmon or red salmon that has been cured and smoked. 2) A mild-cured side of fish (e.g., salmon) that has been cold-smoked 1–3 days. 3) Liquid oxygen

loyalty rebate A rebate offered by a group of companies in return for a buyer's agreement to purchase certain goods or services exclusively from these companies

lozenge See **candy**

lozovaca A brandy distilled from fermented grapes

LSD See **least significant difference**

LSM Low-sodium milk

L/S ratio (L over S ratio) The ratio of linoleic acid to saturated acid in a fat

LTL Less-than-truckload lot

Lu Symbol for the element lutetium

Luan A breed of sheep with white fleece and fat deposits around the tail; used for wool and mutton; found in Shansi (Shanxi) Province, northeastern China

luau 1) A Hawaiian feast, usually of roasted pig prepared in the ancient style and served with poi. 2) A mixture of taro leaves, coconut milk, and chicken or fish

lubia See **lablab**

lubuska A semidry, uncooked, smoked Polish sausage made from medium-chopped, medium-seasoned, beef and lamb stuffed into pork or artificial casings

lucerne Alfalfa

luchon A cheese made from cow's milk

Luchwan A breed of black, white, or black and white pigs found in Kwangsi Province, China

lucullus See **boursault**

lug 1) A metal or plastic container that will contain 50–75 lb of meat. 2) A box used for transporting orchard crops during harvesting

lugana An Italian white wine

lug-type twist-off A convenient closure that can be removed and does not require a tool for removal

luk-paeng See **loogpang**

lumbar Of or pertaining to the loin region or to the region of the back between the thoracic vertebrae and the sacrum

lumbar vertebrae The area of the backbone between the ribs and the slip joint
See Part 2: Bone

lumberjack A lean summer sausage made from finely chopped beef stuffed into mahogany-colored casings and given a heavy smoke

lumen (lm) 1) A measure of light intensity

1 lm = 0.0796 spherical candle power

2) A measure of power

1 lm = 1.496×10^4 ergs per second (erg/s)

= 6.6204×10^{-2} foot-pound per minute (ft-lb/min)

= 0.001496 watt (W)

= 1.0034×10^{-3} foot-pound per second (ft-lb/s)

= 8.5096×10^{-5} British thermal units per minute (Btu/min)

= 1.496×10^{-6} kilowatt (kW)

lumen per square foot (lm/ft²)

1 lm/ft² = 10.76 lumen per square meter (lm/m²)
= 1 foot-candle

luminous meat A phenomenon caused by phosphorescent bacteria; not a form of food poisoning

lump lime A liming material composed of 85% CaO; each pound has the neutralizing equivalent of 1.5–1.75 lb CaCO₃ (or approximately this quantity of dolomitic limestone)

lumpsucker (lumpfish; *Cyclopterus lumpus*) A food fish

lumpy jaw A noncommunicable disease caused by a fungus (found on grasses) that affects the jaws of cattle and the udders of hogs

lunch The mid-day meal, usually light or a snack; a light meal between other meals

lunch cheese A German, Limburger-type cheese See **frühstück**

luncheon The mid-day meal

luncheon cheese A type of gouda cheese

luncheon meat 1) A cured, cooked, food product made from comminuted meat with max. 3% added water; a cooked meat specialty made from chopped pork, ham, or beef and available in loaf form, canned, or in a vacuum package. 2) A moist, cooked, unsmoked, fine-, medium-, or coarse-chopped, mild- or medium-seasoned (with nitrite) beef, pork, and lamb stuffed into artificial casings or not placed in a casing
1 cup, chopped = 4.8–5 oz

Luncheon meat (American)	Composition				
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Beef					
Loaf	52.5	14.4	26	2.9	4
Thinly sliced	70	22	3	0.3	4.7
Pork, beef	49.3	12.6	32	2.3	3.6
Pork, canned	51.5	12.5	30	2.1	3.6

Meat ingredients

Allowed	Not allowed
Beef	Blood
Cheek meat	Defatted tissue
Heart meat	Detached skin
Pork	Kidney
Tongue meat	Liver
	Lungs
	Stomach

See Part 2: Calories, Daily Recommendations; Iron, Daily Recommendations; Meat and Meat Products, Composition; Meat Composition; Meat Storage; Niacin, Daily Recommendations; Pork Storage; Riboflavin, Daily Recommendations; Sausage, Types; Thiamin, Daily Recommendations

luncheon sausage, British A moist, cooked, unsmoked British sausage made from fine-, medium-, or coarse-chopped, mild- or medium-seasoned beef, lamb, veal, pork, and goat stuffed into artificial casings
Composition: moisture 58.6%; protein 15.4%; fat 21%; carbohydrate 1.6%; ash 3.5%

luncheon sausage, Irish A moist, cooked, unsmoked Irish sausage made from medium- or coarse-chopped, medium-seasoned pork stuffed into artificial casings

lunchkass A gouda-type cheese

lunchkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned (with potato starch and skim-milk powder) beef and pork stuffed into peelable pork casings

lunchkorvett A moist, cooked, smoked Swedish sausage made from finely chopped, medium-seasoned (with potato starch and skim-milk powder) beef and pork stuffed into peelable pork casings; contains 11% fat

lunch tongue Pork tongue that has been canned and cured

lunchworst (bruhwurst) 1) A moist, cooked, smoked Dutch sausage made from finely chopped, medium-seasoned pork and beef stuffed into beef or artificial casings. 2) A moist, cooked, smoked Belgian

sausage made from finely chopped, heavily seasoned beef and pork stuffed into beef or artificial casings

lüneberg 1) A yellow (colored with saffron), Swiss cheese made from cow's milk. 2) A mild, German Limburger-type cheese

lunel A sweet, French dessert wine

lung One of a pair of respiration organs or sacs in the chest or thoracic area; the organ in which the blood is aerated

See Part 2: Gland Weights; Organ Weights; Pork Cuts and Uses

lungan See **longan**

lungwort (lungmoss; oak lungs) A bitter, acid herb used for tea

lunsjpolse A moist, cooked, unsmoked Norwegian sausage made from medium-chopped, mildly seasoned beef and pork stuffed into artificial casings

luostari A medium-flavored semisoft cheese

lup cheong See **Chinese sausage**

lu-petite beurre A cracker

lupine A plant having a toxic principle (an alkaloid)

Lupinus albus—white or sweet lupine

L. angustifolius—a sweet strain of blue lupine

L. luteus—a sweet strain of yellow lupine

See Part 2: Poisonous Plants; Seed, Germination

lupin seed The seed of a leguminous plant; may be fermented in balls and used in soup and stews

lupus See **bass**

lurmark A brand in the shape of a trumpet (lur) often found on Danish cheese

lusigan A soft, white cheese made from goat's milk and cured 1–2 weeks

luster The glistening of a fiber in light

lute A water and flour paste used to seal casseroles

lutein See **xanthophyll**

luteinizing hormone (LH) A hormone that is produced in the pituitary gland and that controls ovulation in females and testosterone secretion in males

luteol See **xanthophyll**

lutetium (Lu) A rare-earth element of the lanthanide series; at. no. 71; Group IIIB of the Periodic Table; at. wt. 174.99; oxidation state +3; electron configuration 2–8–18–32–9–2
orbit K L M N O P

lutfish (lutefisk) A fish that has been dried and cured without salt, until hard and dry, soaked (3–4 days) in lye water, and then soaked in fresh water prior to cooking

lux 1) A salami made from beef and pork. 2) A dry, uncooked, smoked Norwegian sausage made from medium-chopped, medium-seasoned beef and pork stuffed into artificial casings. 3) A unit of illumination

1 lux = 1 lumen per square meter (lm/m²)

= 0.0929 foot-candle

luxury loaf A lean, pork sausage

Composition: moisture 68.3%; protein 18.4%; fat 4.8%; carbohydrate 4.9%; ash 3.6%

442 luxussalami

luxussalami A dry, uncooked, smoked Norwegian sausage made from medium-chopped, heavily seasoned beef and pork fermented and stuffed into artificial casings; a pepperoni made from beef and pork

ly- A prefix meaning loosen or dissolve

lyase Any of several enzymes that split substrates by removing groups within a substrate molecule

Types: cis-trans isomerase; epimerase; intramolecular ketol isomerase; mutase; racemase

lychee (*Litchi chinensis*) A Southeast Asian fruit that can be dried like raisins

Varieties: Mauritius; Sweetcliff

See **litchi**

See Part 2: Fruit Storage

lychee browning A physiological browning affecting the pericarp of the lychee, caused by desiccation of the fruit; may or may not alter flavor

Control: Place in polyethylene bag and store at 35°F.

lycopene (C₄₀H₅₆) A red, carotenoid pigment found in tomatoes

lye Potassium or sodium hydroxide; lye used to be extracted from wood ashes by placing straw in a wooden barrel with a hole in the bottom, adding alternate layers of wood ashes and lime, and adding water. The concentration may be determined by floating a fresh egg in the lye solution: The area of the egg that is above the lye solution should be about the size of a dime.

May be used as a disinfectant against the following:

Bacteria

Acid-fast—poor

Gram-negative—good

Gram-positive—poor

Viruses—good

Used as a disinfectant, it is more effective cold; has a phenol coefficient of 10

Disadvantages (as a disinfectant):

Caustic to tissue

Corrosive to metals

Loses strength in the presence of organic matter

Level: 2% solution for disinfecting

Also used to preserve fish

See Part 2: Detergent Properties

lye soap Made from rendered fat with lye and water, e.g.,

11 lb melted fat

2 cans lye

5 pt hot water

lygus bug (*Lygus spp.*) Any of several small, flat, plant-sucking insects ($\frac{5}{32}$ – $\frac{3}{8}$ in. long, $\frac{1}{2}$ in. wide); primarily a seed feeder; color varies from pale green to reddish or dark brown

Damage: causes plants to bleed profusely; causes cell death for some distance around the site; also causes fruit to be mis-shapen

Control: insecticide (methyl parathion)

lymeswold A blue cheese that is made from cow's milk and has a white surface mold

lymph A slightly yellow, alkaline liquid in lymphatic vessels that is taken from the body tissues and returned to the bloodstream

lymph node (lymph gland) A gland that secretes or stores lymph; part of the body's defense mechanism
See Part 2: Lymph Nodes, Ox; Lymph Nodes, Ox, Lateral; Lymph Nodes, Pig; Lymph Nodes, Sheep

lymphocyte A white blood cell; produces antibodies or engages in other types of defensive action after contact with a foreign substance (antigen)

lymphoid See Part 2: Organ Weights

lyoner 1) A fine- to medium-chopped, cooked, smoked American sausage available in medium- to large-diameter links or large-diameter casings for slicing. 2) A moist, cooked, smoked Austrian sausage made from medium-chopped, medium-seasoned (with nitrite) beef and pork stuffed into artificial casings with a diameter of greater than 40 mm

lyonerwurst A moist, cooked, smoked or unsmoked Swiss sausage made from finely chopped, mildly seasoned beef, pork, and veal stuffed into beef casings

lyonnaise Cold, boiled potatoes with butter, parsley, and onions

lyons 1) A dry, French, all-pork sausage (salami) made from medium-chopped pork and small cubes of diced fat; cured and seasoned with spices and garlic. 2) A dry, uncooked, unsmoked American sausage made from medium-chopped, mildly seasoned (with garlic), cured pork, fermented and stuffed into pork or artificial casings

lyons sausage A dry French sausage made from finely chopped lean pork (4 parts) and small pieces of diced fat (1 or 2 parts) with spices and garlic; it is stuffed into large casings, cured, and air-dried.

lyophile To loosen

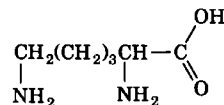
lyophilic Solvent-loving

lyophilization (freeze-drying) The evaporation of water from a product in a vacuum by first freezing the product and then changing the ice directly to a vapor and removing the vapor
See also **freeze-drying**

lyopylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium-seasoned beef and pork, with pork fat added, stuffed into artificial casings

lys- A prefix meaning loosen or dissolve

lysine An essential amino acid



See Part 2: Amino Acids; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Microorganism, Media; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Composition; Wheat Products, Composition

lysine monohydrochloride



Used as a nutrient or dietary supplement

Storage: well-closed container

lysis (hemolysis) The destruction of the red blood cells (resulting in the liberation of hemoglobin) by agitation or addition of water to blood; the hemoglobin is then dissolved in the liquid plasma.

lysosome A body in the sarcoplasm that contains hydrolytic enzymes; a cytoplasmic structure that encloses many types of enzymes (which are maintained in the inactive state)

lysozyme An enzyme that breaks down the cell walls of some bacteria

lyt- A prefix meaning loosen or dissolve

lythe *See* **pollock**

lyxose *See* Part 2: Sugar, D-Aldehyde

lyypekkilainen mettwurst A coarse salami made from beef and pork

M

M A designation of apple root stock selected by East Malling Research Station, Kent, England

M₂—semidwarf; more vigorous than **M₇** or **M₁₀₆**; roots less sensitive to disease

M₇—semidwarf; poor anchorage

M₉—8 ft; poor root system

M₂₆—slightly larger than **M₃**; root system is stronger

M₁₀₆—semidwarf

M₁₁₁—semidwarf; more vigorous than **M₇** or **M₁₀₆**; roots less sensitive to disease

See **mega**; **molar**

m See **molal**

m See **milli**

mA See **milliampere**

maashanker (horse mackerel) A food fish

maasdam A Swiss cheese made from cow's milk

mabjalwa A sorghum beer

macadamia (Queensland nut; *Macadamia terni-folia*) A large, white, sweet, crisp, mellow, hazel-nut-like nut that is rich in oil (70–78%) and has a smooth, brown, hard shell and a white to brown kernel with a hazelnut shape and a coffee aroma; grown in Hawaii and used in confectionery, desserts, and to make into “butter”

1 cup, canned = 8 oz

See **Queensland nut**

macaroni A mixture of wheat flour (semolina, durum flour, farina, or flour) and water (sometimes also milk and eggs) that has been dried into elbow and straight tubes (0.11–0.27-in. diameter), solid rods (spaghetti and vermicelli), ribbons (noodles), and novelties (alphabet letters, rings, sea shells, stars, etc.); often canned in cream sauce and cheese; dry product cooked in boiling water

Other varieties:

Ditali—short tubes, $\frac{1}{4}$ -in. diameter, $\frac{1}{4}$ in. long

Ditali lisci—small elbow pieces

Ditalini—short tubes, $\frac{7}{16}$ -in. diameter, $\frac{1}{4}$ -in. long

Ditali rigati—grooved, small elbow pieces

Elbow macaroni— $\frac{7}{8}$ -in. elbow shape, $\frac{3}{16}$ -in. diameter

Fovantini (or maccaroncelli)— $\frac{3}{32}$ -in. diameter tubes

Rigatoni—large, fluted elbow pieces

Rotini—twist (corkscrew) shape; $\frac{1}{2}$ -in. diameter, 1 in. long

Tubetti—thinnest elbow shaped

Zitoni— $\frac{1}{2}$ -in. diameter tubes

Zitoni rigati— $\frac{1}{2}$ -in. diameter fluted tubes

Optional ingredients: Egg white, min. 0.5%, max. 2.0% solids; disodium phosphate, min. 0.5%, max. 1.0%; seasoning; salt, gum gluten, max. 13% protein; total solids min. 87%; glyceryl monostearate, max. 2%

Nutrients added to enriched type:

Iron—13–16 mg/lb

Niacin or niacinamide—27–34 mg/lb

Riboflavin—1.7–2.2 mg/lb

Thiamin—4–5 mg/lb

Equivalents:

1 pound, uncooked = 4 cups uncooked

1 pound, uncooked = 8–9 cups cooked

1 cup, elbow, dry = 4.8 oz

1 cup, 1-in. pieces, dry = 3.8 oz

1 cup, 2-in. pieces, dry = 3 oz

1 cup, broken, uncooked = $2-2\frac{2}{3}$ cups cooked

1 cup, elbow, cooked = 2.7 oz

1 cup, cavatelli, cooked = 2.7 oz

1 oz, dry = 1 serving

Composition (dry): moisture 10%; protein 12.5%; fat 1%; carbohydrate 75%; ash 0.7%

Storage: cool and dry See **noodles**; **rice macaroni**; **spaghetti**

See Part 2: Calories, Daily Recommendations; Cereal Composition; Cereal Enrichment; Food, Composition; Grain Products Composition; Macaroni and Noodles Composition; Microwave Processing Time; Minerals, Food; Storage, Dry; Thiamin, Food

macaroni and cheese A baked mixture of small-diameter macaroni and a cheddar cheese

See Part 2: Calcium Equivalence for Milk; Portion Size

macaroni and cheese loaf A cooked meat specialty made with finely ground pork and beef with cheddar cheese and macaroni distributed through the product

macaroni wheat See **wheat**

macaroon A sweet cake made with almond paste, sugar, and egg white; sodium content 14 mg/2 cookies (38 g)

See Part 2: Grain Products Composition

macaroon cookie

1 cup, crumbled, soft = 4–5 cookies

macassar nut fat See Part 2: Saturated Fatty Acids

maccaroncelli See **macaroni**

MacConkey agar See Part 2: Intestinal Microorganisms; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

MacConkey broth See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

mace [*Myristica fragrans* Houtt; substitute “mace” (*Achillea decolorans*)] A spice consisting of the whole (blade) or ground aril (red external

covering) of the seed of nutmeg; it is flattened and dried (dark yellow); used for seasoning sauces and ketchups

Type	Aroma	Flavor
East Indian	Smooth	Pleasant
	Fresh	Sharp
	Spicy, aromatic	Penetrating
Siau	Sweet, sassafras	
	Smooth	Increasing strength
	Fresh	and tenacity
	Spicy, aromatic	
	Nutmeg	

Yellow to brownish orange color; stronger and less delicate flavor than nutmeg; coarse to medium grind Grade:

Indonesian (East Indian)

Whole

Broken

Grenadian (West Indian)

Whole pale mace

No. 1 broken

No. 2 broken (does not have desired pale color)

Unassorted

Picking

Composition: moisture 6-9%; protein 6-7%; fat 32-33%; carbohydrate 50-51%; fiber 4-5%; ash 2-3%; fixed oil 20-35%; not less than 20% or more than 35% nonvolatile ether extract; not more than 3 or 3.5% total ash; not more than 0.5% ash insoluble in HCl; not more than 6% moisture; not less than 12% (range 12-16%) volatile oil; not more than 7% crude fiber

Storage: ground spice deteriorates during storage due to loss of volatile oil

See also **nutmeg**

See Part 2: Flavoring Agents, Natural

macédoine A mixture of vegetables or fruit

mace oil A colorless to pale yellow, volatile oil obtained by steam distillation of the ground, dried arilode of the ripe seed of mace (*Myristica fragrans*); used as a nutmeglike flavoring agent for food

Refractive index—1.469-1.488 at 20°C;

Sp. gr.—0.880-0.930 (East Indian); 0.853-0.881 (West Indian)

Optical rotation—varies with source from +2 to +45°

Major constituents: monoterpene hydrocarbons 75-94%; oxygenated monoterpenes 4-17%; aromatic ethers 0-6%

Storage: full, tight, glass container in a cool, dark place

mace oleoresin A clear to dark-red liquid obtained by organic solvent (petroleum ether; ethanol) extraction or by steam distillation and solvent extraction of dried arilode of the fruit of mace

Volatile oil—10-55% (min. 30 ml/100 g)

Sp. gr.—0.995-1.005 at 25°C

macerate 1) To soften or flavor by steeping in a liquid preparation at room temperature or slightly higher; to soften and wear away by steeping. 2) To disperse by pounding or chopping; to make soft or tender

machaca A spiced, shredded beef used as a filling or main dish

mâche (lamb's lettuce) A leafy green vegetable with a hazelnut taste; can be cooked or used raw in salads

macin A protease enzyme found in the osage orange

mackerel A spiny-finned, fat fish; a saltwater fish in the same family as tuna; weigh from 0.5-25 pounds; bold rich flavor; firm, dark (usually red) flesh that is high in fat; often filleted and canned; requires no freshening or cooking prior to consumption

Graded (1 to 4) according to size with number 1 being the largest (1 $\frac{3}{4}$ pounds)

Other Names

Blue (American)—New England, Norway

King (cero, kingfish)—South Atlantic, Gulf

Spanish—South Atlantic, Gulf

Maturity Designation

Name	Size (in.)	When caught
Blink	6 $\frac{1}{2}$	Aug.: 1st summer
Tacks or spikes	7-8	Oct.: 1st summer
Tinkers	12-14	2nd summer

When caught:

Fall—best condition

Summer—beginning to mature

Spring—poor condition

Types:

Atlantic—King (*Scomber scombrus*)

Australia—Scaly (*Amblugaster postera*)

Mackerel, Atka (*Pleurogrammus azonus*; *P. monopterygius*)

Mackerel, shark—Porbeagle

Mackerel, Spanish—Atlantic (*S. maculatus*)

New Zealand—Blue (*S. australasicus*)

Oceania (*Trachurus declivis*)

Pacific—Pacific mackerel or blue mackerel or

American mackerel; chub (*S. japonicus*)

Pacific Jack Mackerel (Spanish mackerel)—Not a mackerel but a member of the jack family; they have a tender flesh that is high in oil

Preserved by salting; freshen by soaking for 12-48 h with several water changes

4 oz per serving

1 cup = 180 g (6.4 oz)

Composition: protein 21.9%; fat 7.3%; pH 6.1; cholesterol 84 mg/3 oz

See also **pelagic fish**

See Part 2: Fish, Storage; Glutamate; Minerals, Food; Vitamin D, Fish; Vitamin D, Food

mackerel mint See **spearmint**

mackerel, smoked Mackerel that is eviscerated, dry salted and hot smoked

Mackeson A sweet, stout-type beer

maco See **mammoncillo**

macon 1) Dry white or red wine. 2) Mutton bacop

maconnais 1) A soft, white cheese made from goat's, cow's, or mixed milk and cured for 1-2 weeks; a French cheese made from goat's milk. 2) Region in Burgundy (east central France) famous for its white wine, which is lighter in texture than most burgundies and develops quickly
Communes: Fuissé and Pouilly

446 macore (macora)

macore (macora) A red, aromatic, cherrylike fruit

macqueline A soft French camembert-type cheese made from whole or partly skimmed milk with rennet added

macroeconomic policies Policies that affect the general economic environment in which the total economy or sectors operate

macrofloc Floc large enough to be seen

macromolecule A molecule of a protein or other high molecular weight substance (usually a polymer) whose size extends into the range of colloidal dimensions (diameter more than 1 μ m); some proteins have a molecular weight in excess of 10^6 (viruses)

macrophage A cell that engulfs, kills, and biodegrades foreign materials (cancer cells or pathogens)

macroscopic examination The process of inspecting visually

macrosmatic A very good olfactory sense

maczola A blue cheese

Madagascar A variety of bean *See* **butter bean**; **ground nut**, **bambara**

Madeira 1) A full-bodied, fragrant, fortified wine (20% alcohol by volume) similar to sherry. 2) A dry or sweet, dessert wine in which fermentation is stopped by adding brandy; the wine is then heated, cooled, and matured; color varies from light amber to red and flavor from dry to sweet

Types:

Bual (boal): a sweet, delicate, dessert wine; red in color

Caravela: dry, light amber aperitif

Duke of Charence Malmsey: very dry, light amber, aperitif

Gloria mundi: clear, reddish, sweet cocktail

Malmsey: full-bodied and sweet dessert wine

Sercial: a dry, bitter flavor, aperitif

South side: highly aromatic; similar to brandy

Verdelho: a before or after meal wine

madeira sauce A brown sauce made with stock and butter and used on meat

madeleine A scallop- or shell-shaped, French, tea cake

mad gum A salty, paste condiment made from fermented shrimp with bean oil

madhu A rice beer

madidi Degermed, steamed maize, dumpling balls

madras A black tea from India

madrilene A jellied consommé

maduro A semisoft, low fat, mildly acidic, smooth cheese made from cow's milk

maedeh A moist Iranian sausage stuffed into a beef or sheep casing

maeju loaves *See* **koji**

mae khong A high-alcohol content whiskey

mafalda An irregularly shaped pasta ($\frac{9}{16}$ -in. width)

mafi Yogurt

Magendie, François A researcher who showed that dogs could not live on carbohydrate and fat and that some source of nitrogen was required

mager middagspolse A very lean, moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and stuffed into a beef casing

maggally A rice wine; sometimes made from other cereal

maggia A Swiss cheese made from cow's milk

maggot A wormlike larva of a dipterous insect *See* **apple maggot**; **walnut husk maggot**

magma (massecuite) A mixture of sugar syrup and crystals in the form of a thin paste

magnesia (MgO) Magnesium oxide; a component of insulating board
See Part 2: Insulation

magnesium (Mg) A metallic element; at. no. 12; at. wt. 24.32; Group IIA of Periodic Table; oxidation state +2; electron configuration 2-8-2
orbit K L M

Occurs in seawater in recoverable concentration; it is the characteristic element in chlorophyll and is found in bones and teeth; essential for converting food to energy; deficiency in plants causes poorly colored, yellowing, or brilliantly tinted, older leaves and results in chlorosis. Also found in all body tissue; important in bone formation and metabolism (essential part of many enzymes)

Source (variety of foods; deficiency uncommon):

Dark green vegetables

Dry beans

Dry peas

Epsom salts

Nuts

Whole grain products

See Part 2: Beef Percentages of Daily Recommended Allowances; Cereal Fortification; Cereals, Vitamin and Mineral content; Egg Products, Nutritive Value; Grain Analysis; Lamb Percentages of Daily Recommended Allowances; Lemon Juice Composition; Macaroni and Noodles Composition; Manure Analysis; Meat, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Normal Solutions; Nutrients in Crops; pH and Availability of Plant Nutrients; Pork, Percentages of Daily Recommended Allowances; Recommended Daily Dietary Allowance; Variety Meat Percentage of Daily Recommended Allowances; Water Drinking Standards; Wheat, Minerals; Wheat Products Composition

magnesium carbonate (MgCO_3) A light, fluffy solid. Used in food as an alkali, carrier, color-retention agent, drying agent, and anticaking agent and in insulation

Composition [$\text{MgCO}_3\text{Mg(OH)}_2$]: dry matter 98%; Ca 0.02%; Mg 30.2%

Storage: well-closed container

See Part 2: Liming Materials; Normal Solutions

magnesium chloride (MgCl_2) A compound used as a color-retention or firming agent in food; used in canned pears for color retention and firmness; also a

component of fireproofing agents and refrigeration brines

Storage: tight container

See Part 2: Normal Solutions

magnesium hydrate See Part 2: Liming Materials

magnesium hydroxide [$\text{Mg}(\text{OH})_2$] A white powder used in food as an alkali, color-retention agent, or drying agent; used in frozen desserts and as a drying agent in foods; improves gelling of cheese

Storage: tight container

See Part 2: Liming Materials; Normal Solutions

magnesium oxide (MgO) A compound that is used in food as an alkali or neutralizer; also used in animal feed

Composition: dry matter 98%; Ca 3%; Mg 55%

Storage: tight container

magnesium phosphate, bibasic (MgHPO_4) Used as a food nutrient or dietary supplement

Storage: well-closed container

magnesium phosphate, tribasic [$\text{Mg}_3(\text{PO}_4)_2$] Used as a nutrient or dietary supplement

Storage: well-closed container

magnesium silicate

(MgSiO_3 , $\text{Mg}_2\text{Si}_3\text{O}_8$, $\text{Mg}_3\text{Si}_2\text{O}_7$)

Used as an anticaking agent in food

Storage: well-closed container

magnesium stearate Magnesium with variable proportions of stearic and palmitic acids. Used as an anticaking agent, binder, and emulsifier in food

Storage: well-closed container

magnesium sulfate (MgSO_4) Epsom salts, used as a food nutrient or dietary supplement; a neutral fertilizer material, 33% MgO; 0-0-0

Storage: well-closed container

See Part 2: Fertilizer Materials

magnum 1) Medium-sized (500 g), excelsior-type cheese. 2) 1 magnum = 2 bottles

Ma goat Light to dark brown, horned goats raised for meat; found in Szechwan (central China)

magou See **maheu**

maguey A tropical, fiber-producing plant

magur A food fish

India—*Clarias batrachus*

magura A blue cheese

maheu (magou; mahewu) A nonalcoholic, sour drink usually made from maize; sometimes made from sorghum or millet

mahewu A fermented, corn and wheat product See **maheu**

mahi mahi A white meat, light to moderate flavored, fin fish

mahn-doo Meat dumplings

mahon A hard, pressed, golden cheese made from sheep's milk and rubbed with olive oil

ma-hua A wine fermented from flowers of *Madhuka indica* See **ka-ak**

maid A ewe lamb from weaning to first shearing

Maiden Blush A variety of apple in season in August and September that makes excellent sauce but only fair eating

maigre Lean; no fat

maigrelet A type of tomme de savoie cheese made with skimmed milk

mailand salami A coarsely chopped salami made from beef and pork

maile A cheese made from sheep's milk with rennet added

Maillard reaction See **browning reaction**

mainauer A munster-type, cream cheese made from cow's milk; a semihard, full cream, German cheese

Maine-Anjou A large, French, dual purpose (primarily beef, but sometimes milk), red and white (sometimes roan) breed of cattle resulting from crossing English Shorthorns and French Mancelles; approximately 10% twinning

mainzer A low-fat, high-protein, semisoft cheese made from cow's milk and usually flavored with cumin

mainzer handkase A small, yellow to white, sharp, sour-milk cheese covered in red or yellow wax

maireya An herb liqueur

maïs Corn

maison Prepared according to the "house recipe"

maitre d'hôtel Seasoned with parsley, butter, and lemon juice

maiyeh A sorghum beer

maize (Indian corn) See **corn**

maize, dwarf mosaic

See Part 2: Sorghum Diseases

maize oil See **corn oil**

majocchino (incanestrato) An Italian cheese made from cow's, goat's, or sheep's milk that contains spices and olive oil

major defect A defect not in the critical classification, but one that could result in significant failure, malfunction, or reduction in effective life

makassar fish An anchovy (*Stolephorus*); dried fish

makhan Butter

maki-maki (dolphinfish, dorado) A tropical, salt-water fish that has a firm, white flesh and a delicate, sweet flavor

makjang A soy sauce

makkolli A rice beer

makopa See Part 2: Fruit Classification

malabar nightshade See **basela**

malabar spinach (Basella alba) A spinach substitute that has bright, green leaves on a long vine; quick growing (70 days); grows in hot weather; can be used cooked as a vegetable or raw in salads

malacia 1) Craving for specific foods. 2) Softness of tissue

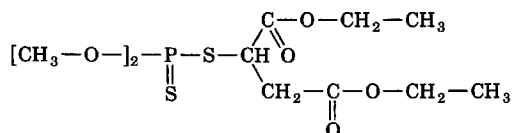
malady A disease or disorder of the body

malaga 1) A semisoft, double cream cheese made from goat's milk and covered with white mold. 2) A sweet blend of old and new, Spanish wine, often fortified, produced in Andalusia (southeast Spain); dark in color but made from white grapes. 3) A white or garnet, dessert wine; 15% alcohol. 4) A variety of grape

malakoff 1) A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned, beef and pork with pork fat added and stuffed into an artificial casing. 2) A French, neufchâtel-type, cheese

malanga See **calalu**

malathion (malathion) A poisonous insecticide of the organic phosphate ester type



See Part 2: Insect Control

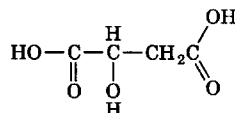
malay apple See **otaheite apple**

male (♂) The impregnating sex See also **sex**

male gonad See **testicle**

malibu A rum liqueur flavored with coconut

malic acid (apple acid) An acid found in fruit



The naturally distributed acid occurs in many foods and is used as an acidulant; in citrus flavors, it is 89-94% as tart as anhydrous citric acid (in fruit flavors 78-83%)

Storage: well-closed container

See Part 2: Acidulants; Maple Syrup Composition; Normal Solutions; Organic Acids in Fruits and Vegetables

malignant A cancerous growth; tending to become worse; deadly

malinovac A raspberry (*Rubus idaeus*) liqueur

mallard (*Anas platyrhynchos*) The common, wild duck

mallobet A frozen, marshmallow dessert

mallow (*Malva sylvestris*) A wild plant or weed whose dried flower can be used for tea and whose leaves may be cooked like spinach

mall-pura A sweet pancake

malmsey A sweet wine

malnutrition An inadequate quantity of essential nutrients; a pathological state resulting from a relative or absolute deficiency or an excess in the diet of one or more essential nutrients; poor nutrition caused by inadequate or unbalanced diet; imperfect or lack of nutrition; state in which a prolonged lack of one or more nutrients retards physical development or

causes the appearance of specific clinical conditions such as anemia, goiter, and rickets

malnutrition, first degree Body weight between 76 and 90% of the average theoretical weight

malnutrition, second degree Body weight between 61 and 75% of the average theoretical weight

malnutrition, third degree Body weight less than 60% of the average theoretical weight

malonate broth See Part 2: Microorganism, Media

malt 1) Any cereal (often barley) that is germinated and the young seedlings are dried to produce malt, which is used in brewing beer; it contains enzymes (e.g., diastase) that hydrolyze starch to fermentable sugars (maltose). 2) Sprouted and steamed whole grain without the radicle; germinated, dried grains of cereal with shoots and rootlets removed; an enzyme-rich substrate used in brewing of beer, chicha, lager, sorghum beer, vinegar, and whiskey; also used in biscuits, bread, breakfast cereal, pickles, and sauces

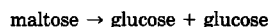
1 bushel (bu) = 34-38 pounds (lb)

1 bu (34-38 lb) malt = 1 bu barley (48 lb)

Composition (dry): moisture 5%; protein 13%; fat 2%; carbohydrate 77%; ash 2% See **beer**; **malted barley**

malt agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

maltase A carbohydrate digestive enzyme that hydrolyzes maltose into two glucose units:



See Part 2: pH Values of Biological Materials

malt barley, dark (kaffee ersatz) A roasted barley used as a coffee extender; dark malted before roasting

malt bread A tea bread made with malt and currants

malted To convert into malt See **malt**

malted barley A product made by allowing barley to sprout; in this process the starch is changed to maltose; it is used in production of beer, malted milk, and malt syrup

malted milk (malteds; malts) A product made by combining milk with the liquid separated from a mash of ground barley malt and wheat flour and then removing the water; adding malted milk powder to a milk shake

1 cup = 235 calories

Composition	Malted milk	
	Powder (avg.)	Chocolate type
Malt flour solids (%)	73.0	
Carbohydrates (%)	71.0	80.2
Milk solids (%)	27.0	
Protein (%)	15.0	9.4
Butterfat (%)	7.8 (min. 7.5)	5.8
Ash (%)	3.7	2.4
Moisture (%)	2.6 (max. 3.5)	1.8
Salt (%)	0.7	
Fiber (%)	0.3	0.4

See Part 2: Dairy Products, Composition II; Milk and Milk Products, Vitamin Content; Milk, Dry Products; Vitamin A, Milk and Milk Products

malted milk, chocolate flavor

Composition	Beverage	Powder
Moisture (%)	81.2	2.0
Protein (%)	3.5	6.5
Fat (%)	3.4	4.5
Carbohydrate (%)	11.0	84.9
Fiber (%)	0.03	0.4
Ash (%)	0.8	2.1

malted milk, natural flavor

Composition	Beverage	Powder
Moisture (%)	81.2	2.6
Protein (%)	4.1	13.1
Fat (%)	3.7	8.5
Carbohydrate (%)	10.0	72.5
Fiber (%)	0.05	0.6
Ash (%)	0.9	3.4

maltesds See **malted milk**

Maltese A milk goat native to the island of Malta

malt extract Malt extracted with hot water from germinated grains of cereal, then concentrated or dried

Malthus, Thomas Robert (1766-1834) A British economist whose "Essay on the Principle of Population" stated that population increases geometrically and the food supply arithmetically; this principle is much discussed today in view of the population explosion

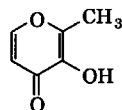
malting The wetting (steeping), germination, drying, and removal of malt sprouts from barley See also **malt**

maltilol A sugar alcohol that occurs in fruit and may be produced from dextrose; 50% as sweet as sucrose

malt liquor A fruity, alcoholic beer made from more grain and less malt and hops than regular beer

maltodextrin A solution or dried material of saccharides obtained from starch

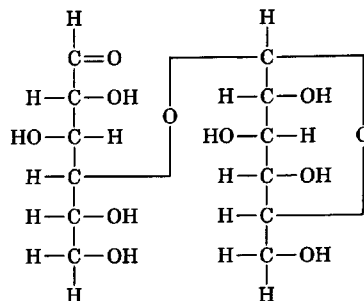
Composition: high saccharides approximately 65-80%; pentasaccharides 4-9%; tetrasaccharides 4-7%; trisaccharides 5-9%; trace mono- and disaccharides Available in dextrose equivalents of 5, 10-14, and 15-19; used as bulking agent or to increase viscosity without adding sweetness. Maltol and dextrin are used as flavor enhancers and texture modifiers

maltol

Used as a caramellike, flavoring agent
Storage: tight container

maltose (maltobiose; malt sugar) A sugar composed of two molecules of glucose formed by hydrolysis (by action of diastase or malt) of starch; it is

dextrorotatory and 30% as sweet as sucrose



Melting point 212°F (100°C)

See Part 2: Sugar, Fruit; Sweetening Agents; Sweetening Compounds

malts See **malted milk**

malt vinegar A vinegar made by fermentation of malted cereals (often barley); a vinegar made from barley or other cereal-grain malt infusion; made by the alcoholic and subsequent acetous fermentation, without distillation, of an infusion of barley malt or cereals whose starch has been converted by malt; malt flavor; golden brown color

Composition (min.): acetic acid 4%; solids 2%; ash 0.2% [min. 0.009% of phosphoric acid (P₂O₅) in water-soluble ash]

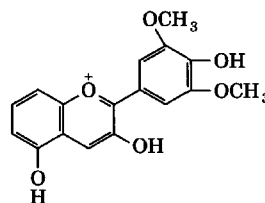
malt whiskey A whiskey distilled from malted barley

malty The flavor of malt; can be caused by growth of *Streptococcus lactis* var. *maltingenes*

malunggay (marong-gay) The small leaves of horseradish

malvaceae See Part 2: Vegetables, Classification

malvidin One of the anthocyanidins responsible for the red color in fruit and vegetables



malwa A sorghum beer

mam A dark, fermented, fish or shrimp paste with rice

mam-ca-linh A dark, salty, fermented, fish (*Dangila*) paste

mam-ca-loc A dark, salty, fermented, mudfish paste with roasted rice, ginger, sugar, and pineapple

mam-ca-ro A dark, salty, fermented, fish (*Anabas*) paste

mam-ca-sat A dark, salty, fermented, fish (*Trichogaster* or *Pangasras*) paste with roasted rice

mam-ca-tre A dark, salty, fermented, fish (*Clarias*) paste

mam-chao A dark, salty, fermented (for 1-3 months), fish (*Cirrhinus*) paste with glutinous rice

mam-cu-sak A dark, salty, fermented, fish paste with roasted rice and pineapple or papaya

mame miso A flavorful (long fermentation), deep red-brown paste made from soybeans

mamey See **sapodilla**

mamey sapote (*Calocarpum sapota*) A tropical, American fruit

mamirolle A soft, medium strong, small (500 g) cheese made from cow's milk and with a reddish rind

mammary tissue Tissue that secretes milk

mammee The fruit of a large, tropical tree; rind and seed are bitter; pulp has pleasant taste; source of vitamin C

mammee apple (*Mamey apple*) An oval or round (4-6 in.) fruit with yellow or salmon pulp and rough brown rind; similar to a cantaloupe; tastes like an apricot See **sapodilla**

mam(m)oncillo (honeyberry; knepe; maco; quenepa; quenette; Spanish lime) A grapelike, green, leathery, 2-in. diameter tropical fruit similar to the lychee; has a large seed and yellow, semisweet pulp, which is eaten raw; the seed may be roasted and eaten

mam-seing Dried, salted, fish roe with roasted rice

manapua A small, filled dumpling

manatee A large, freshwater mammal that lives on aquatic plants; has been suggested as a meat-producing animal

manchego A golden, hard, pressed, white to yellow paste cheese made from sheep's milk; cylindrical-shaped (2-5-in. diameter and 5 in. high; 2-3 kg); sometimes has holes; ripened in molds lined with esparto grass

manchurian bean See **soybean**

Manchurian cattle A breed of yellow (a few are brindle or black), humpless, strong, compact, dual purpose (draft and beef) cattle that originated in northeastern China

Manchurian sheep White sheep raised for wool

mandarin (*Citrus deliciosa*; *C. nobilis*) A citrus fruit from lower Asia; an orange closely related to a tangerine; canned in segments with water or very light syrup

Segments per can:

No. 1 can—55 segments

No. 2½ can—145 segments See **tangerine**

mandarine A tangerine-flavored, sweet liqueur

mandarini A 14-kg, provolone-type cheese

mandarin oil The oil expressed from peel of *Citrus reticulata*; sp. gr. 0.846-0.854; used as an orangelike flavoring agent

Storage: full, tight, glass container in a cool, dark place

mandarin orange

1 cup, canned, solids and liquid = 8.6-9.0 oz

mandeli (*Coilia dussumieri*) A food fish found near India

mandible A jaw of an animal

See Part 2: Fish Nomenclature

mandoo A meat dumpling

mandrake (mayapple; racoon berry; wild lemon) An herb used for tea See **mayapple**

mandrel A core around which material is shaped to form container tubes

man-eater (*Carcharodon carcharias*) A food fish

mangaba (mangabeira) A persimmon-like fruit

mangabeira See **mangaba**

manganese (Mn) A metallic element; at. no. 25; at. wt. 54.94; group VIIB of Periodic Table; oxidation states +2, +3, +4, +7; electron configuration 2-8-13-2 orbit K L M N

Body function: in reproduction, normal tendon and bone structure and part of some enzyme systems

Sources: beans, bran, coffee, nuts, peas, tea

Deficiency unknown in animals; deficiency in plants causes interveinal chlorosis and necrotic lesions

See Part 2: Egg Products, Nutritive Value; Grain Analysis; Maple Syrup Composition; Minerals, Food; Normal Solutions; Nutrients in Crops; pH and Availability of Plant Nutrients; Water Drinking Standards; Wheat, Minerals; Wheat Products Composition

manganese chloride (MnCl_2) Used as a food nutrient or dietary supplement

Storage: well-closed container

manganese gluconate



Used as a food nutrient or dietary supplement

Storage: well-closed container

manganese glycerophosphate ($\text{C}_3\text{H}_7\text{MnO}_6\text{P}$) Used as a food nutrient or dietary supplement

Storage: well-closed container

manganese hypophosphite [$\text{Mn}(\text{PH}_2\text{O}_2)_2$] Used as a nutrient or dietary supplement

Storage: well-closed container

manganese (manganous) oxide (MnO) Used in animal feed

Composition (commercial product): dry matter 99% (including 76.7% manganese)

manganese sulfate (MnSO_4) Used as a food nutrient or dietary supplement and a fertilizer material; a source of soluble manganese on land that has been over-limed

Storage: well-closed container

See Part 2: Fertilizer Materials; Normal Solutions

mange A parasite (mite) that affects the skin of dogs, hogs, horses, and mules (also man), causing loss of hair; contagious

mangel (mangel wurzel; mangold; mangold wurzel; *Beta vulgaris*) A coarse, stock beet used as livestock feed; young mangels may be eaten
Seed 4-8 lb/acre. See **mangel wurzel**

mangel wurzel A flesh-colored, root crop with white, pink, red, orange, or purple skin; used for animal feed. See **mangel**

mangetout See **sugar pea**

mango (apple of the south; tropical peach; *Mangifera indica*) 1) The fruit of a medium-size, subtropical tree that produces a yellow-green to red fruit (6 oz–1½ lb); the orange flesh surrounds a central flat, oval stone that is 7–20% of its weight. 2) A smooth, round to oval, southeast Asian fruit with flesh that is sometimes fibrous and sweet but slightly acid; flavor like a mixture of pineapple, apricot, peach, and banana

Varieties:

Alphonso
Bangalore
Carrie
Dueshri
Glenn
Irwin
Keitt
Tommy Atkins

Fiber content and flavor varies tremendously with varieties

To prepare: peel and remove large seed

Uses: Eat fresh or in cake when ripe; use in pickles or relish when green

1 large = 2 cups, peeled, pitted, chopped

1 cup, fresh, diced or sliced = 5.8 oz

Ripen at room temperature; gives slightly when squeezed if ripe

Composition: moisture 82%; protein 0.7%; fat 0.4%; carbohydrate 17% av. (10–20% sugar); ash 0.4%; pH 3.9–4.6

High in vitamin A; also contains medium amount of vitamins B and C; eaten fresh, canned, or made into preserves; unripe fruit is made into mango chutney

Storage: 50°F, 85–90% relative humidity, 2 week storage life See **anthracnose**, **stem end rot**

See Part 2: Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Storage; Minerals, Food; Plant Foods, Composition; Tocopherols

mango chilling injury A scald-like, gray discoloration with pitting and uneven softening, caused by storing mangos, before ripening, below 50°F; the fruit has poor development of color and flavor

Storage temperature:

50–55°F for up to 3 weeks before ripening

70–75°F for ripening

30–40°F for several weeks if fully ripe

mango fish A yellow-colored, Indian fish that is often canned

mango melon (orange melon; vegetable peach; *Cucumis melo*) A yellow-skinned melon with white or yellow flesh; may be cooked, preserved, or made into pickles

mango pickle 1) Mango pickled with asafoetida, chillies, fenugreek, mustard, and turmeric. 2) Mango melons or green pepper stuffed with chopped pickles

mango squash See **chayote**

mangosteen A large tree that produces a smooth rind and brownish purple berry; beneath the tough rind, the white pulp is segmented (5–7 segments) and contains a few seeds; the fruit is consumed fresh

See Part 2: Fruit Classification; Fruit Storage

mangrove 1) A red snapper-type fish. 2) A fruit

manhattan (manhattan cocktail) 1) A mixed drink made from 1½ oz (1 jigger) of bourbon or rye, ½ oz sweet vermouth, and a dash of angostura bitters (optional); stir with ice, strain, and add cherry. 2) A cocktail usually made with rye, vermouth, and angostura bitters

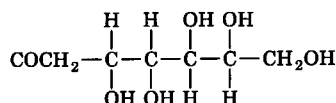
manicamp A cheese made from cow's milk

manila fiber Fiber produced by a plant that resembles a banana plant; used for making twine

manioc A woody, South American, tropical plant whose roots are the source of cassava and tapioca See also **cassava**; **tapioca flour**; **yam bean**

manisan A brown sugar made from the coconut

mannitol

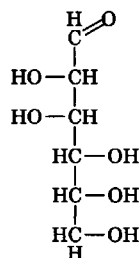


1) A hexahydric sugar alcohol used in dietetic foods or "sugar-free" products; extracted from brown algae; used as a nutrient, dietary supplement, texture modifying agent, sweetener (50% as sweet as sucrose), anticaking agent, stabilizer, or thickener. 2) White, odorless, crystalline material that is 50 to 0.67% as sweet as sucrose with 0.5% of the calories; may have a laxative effect

Storage: well-closed container

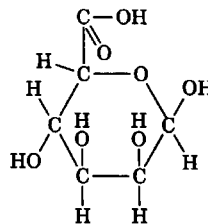
See Part 2: Microbiological Media

mannose (C₆H₁₂O₆) A 6-carbon monosaccharide (hexose) found in orange rind, seeds, and sugar cane; has a sweet taste, but bitter aftertaste



See Part 2: Sugar, D-aldehyde

mannuronic acid A monosaccharide derivative used as a building block in nature



mano A provolone-type cheese made from cow's milk and wrapped in banana leaves

manok Chicken

man-ruoc A salty, fermented condiment made from freshwater, shrimp paste

man-ruot A salty, fermented condiment made from fish guts paste

manteche A provola-type cheese made from buffalo's or cow's milk and containing butter in the center; sometimes smoked

mantecoso A semisoft, mildly acidic, smooth cheese made from cow's milk

mantissa See **logarithm**

man-tom A salty, fermented condiment made from shrimp paste

man-tou A fermented, yellow-brown, salty (20-25%) condiment made from fish paste

man t'ou A steamed, wheat (sometime maize or rice) bread

man-tu A meat dumpling

manufacturer's sugar See **confectioner's sugar**

manur A ricotta-type cheese made from cow's or sheep's milk and that is usually dried

manure (feces) The excrement of animals; used for fertilizer and is best if composted first to keep from burning roots of plants; source of hydrocarbon gases for fuel

	Production (tons/year)		Percent		
	Solid	Liquid	N	P ₂ O ₅	K ₂ O
Average:	—	—	0.7	0.4	0.5
Cattle:	9	4	0.5	0.3	0.5
Chickens:	0.07	—	0.9	0.5	0.8
Horses:	7	1	0.6	0.3	0.6
Sheep:	0.5	0.3	0.9	0.5	0.8
Swine:	1	0.6	0.6	0.5	0.4

Composition (poultry, dehydrated): dry matter 90%; protein 25%; fiber 12%; fat 2%; ash 27%

See Part 2: Fertilizer Materials; Manure Analysis; Wastes, Agricultural and Industrial

manure, green Crops that are plowed under for fertilizer

manyplies See **omasum**

manzanilla A pale, dry, young, low-alcoholic sherry

mao t'ai A spirit distilled from millet and wheat

MAP See **modified American plan**

maple butter See **maple cream**

maple cream (maple butter) Maple syrup boiled to 232°F, cooled without stirring to 70°F, and scraped into cream consistency

maple, imitation A flavoring made from vegetable extracts with color added; often contains some pure maple flavor

maple liqueur A brandy liqueur flavored with maple tree sap

maple sap The sap of the sugar maple, which contains sucrose (3-4%), invert sugar, malic acid, mineral matter, and albuminoids; a $\frac{3}{4}$ -in. hole, 1 in. deep is used to tap the tree.

Equivalents:

3 pounds of syrup/tree-year

0.3-1 gallon syrup/tree-year

12.5-44 gallons (depends on sweetness) of sap = 1 gallon syrup

maple sugar See **sugar, maple**

maple sugar syrup A syrup made by dissolving maple sugar in water; not as sweet or mild as maple syrup

maple syrup (sirup) Concentrated sap of the sugar maple (*Acer saccharinum*) or rock maple made by evaporation of maple sap, which is collected in early spring. Other maple trees, such as silver, Norway, or swamp, may be used but sap is not as sweet and less syrup can be made per unit of sap; they are sometimes used to make wine by fermentation. Highest quality has light color and delicate flavor

Species of tree:

Black maple

Sugar maple

Max. water content, 35%; min. 11 lb/gal (231 in.³); sp. gr. 1.325; pH 6.5-7.0; sugar 66.5%; Baumé 35.75° at 60°F; Brix 66.5° at 60°F

Equivalents:

1 cup sugar = 1 cup maple syrup + $\frac{1}{4}$ cup of liquid + $\frac{1}{4}$ tsp baking soda

1 tbsp, syrup = 2.5 tsp, sugar

1 cup, syrup = 312 g (11 oz)

1 gal syrup = 8 lb maple sugar = 34 gal sap

Storage: 40-45°F

See Part 2: Maple Syrup Composition; Sugars and Syrups Composition; Sweetening Agents

maquee A soft, Belgian cheese made from cow's milk with rennet added

marasca A Yugoslavian cherry used to make maraschino cherries

maraschino Sweet liqueur distilled from maraschino cherries and their kernels and used as flavoring; sweet liqueur flavored with maraschino cherries and their kernels

maraschino cherries Unripe cherries (Royal Anne) that are cooked in syrup, colored, and flavored. Brined cherries are pitted, SO₂ leached out with water, boiled, dyed, boiled, held in dye, washed in hot water and then citric acid solution, and rinsed; some are sweetened and flavored (bitter almond oil, neroli oil, and vanilla extract). The colorant formerly used was prohibited by FDA in 1976

1 maraschino cherry = $\frac{1}{2}$ oz

See **candy**

marasmus Malnutrition; wasting away

marastina A strong, dry, white wine

maravsky-bochnik A 10-15-kg, Swiss cheese made from cow's milk

marble CaCO₃ with admixed impurities (iron oxide and other metallic oxides) giving a mottled or streaky appearance

marble cheese A snack cheese

marbled fruit See brown rot

marbling Fat intermingled in the muscle; an indicator of meat quality

marc 1) A spirit produced from the skin and seed remaining in the press after grapes have been pressed; residue left in wine press; brandy distilled from fermented grape pulp and skins. 2) A spirit distilled from fruit residue See **grape**, **pomace**; **pomace**

marchpane See **marzipan**

MARCIS Microbiological and Residue Computer Information Systems

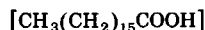
MARDI Malaysian Agricultural Research and Development Institute

mare A female horse (generally of breeding age); gestation period 340 days (range 307–412); duration of heat period 5–7 days; normal recurrence of heat, approx. 21 days

mare mule A female mule

marengo, à la Fowl in a sauce made of tomato, white wine, butter, mushrooms, and garlic

margaric acid (heptadecanoic acid)



An acid rarely found in natural oils and fats
See Part 2: Fatty Acids and Their Properties

margarine A butter substitute developed by a French chemist; a fat, often a mixture of animal and vegetable fat, that is homogenized; used in cooking and as a substitute for butter. A manufactured food resembling butter except cultured, pasteurized, skimmed milk is churned with vegetable or animal fat (usually not milk); it contains at least 80% of one or more of the following fats, which may be hydrogenated:

Milk fat
Rendered animal fat
Stearin or oil derived from fats or oils
Vegetable fat or oil (cottonseed, soybean, corn, peanut, sunflower, etc.)

Can also contain:

Butter
Coloring (carotene or other vegetable color approved by USDA)
Emulsifying agents
Flavorings
Milk products (cultured, skim milk)
Preservatives
Salt ($2\frac{1}{2}$ – $3\frac{1}{2}\%$)
Vitamins

Vitamin A, min. 15,000 U.S.P. units/lb; vitamin D, min. 2,000 U.S.P. units/lb

Diglyceride—	} max. 0.5% total wt
Lecithin—	
Monoglyceride—	
Benzoic acid—	} max. 0.1% total wt
Potassium sorbate—	
Sodium benzoate—	
Artificial flavoring, diacetyl or acetyl methyl carbinoli	

Equivalents:

3 cups, whipped = 1 lb
2 cups = 1 lb
1 cup = 225 g (7.9 oz)
1 cup = $\frac{7}{8}$ cup lard + $\frac{1}{2}$ tsp salt
= $\frac{7}{8}$ cup rendered fat + $\frac{1}{2}$ tsp salt
= 1 cup of hydrogenated fat + $\frac{1}{2}$ tsp salt
1 cup, whipped = 5.4 oz
1 stick = $\frac{1}{4}$ lb
= 4 oz
= $\frac{1}{2}$ cup
1 stick, whipped = 2.7 oz
2 tbsp = 1 oz
1 tbsp = $\frac{1}{8}$ stick
= 0.5 oz
1 tbsp, whipped = 9–10 g
1 pat ($1 \times 1 \times \frac{1}{3}$ in.) = 5 g

Composition: moisture 15% (max. 16%); protein 0.6%; fat 81% (75–84%); carbohydrate 0.4%; ash 2.5%

1 pat ($1 \times 1 \times \frac{1}{3}$ in.) = 35 calories
1 tbsp = 100 calories
1 tbsp, soft tub = 100 calories
1 tbsp (14 g), salted = 140 mg Na
1 tbsp (14 g), unsalted = 1 mg Na

Storage: Refrigerate (32–35°F), tightly covered; protect from light; use within 2 weeks.

See also **oleomargarine**

See Part 2: Butter and Butter Products, Composition; Calories, Daily Recommendations; Fats and Oils, Composition; Margarine Formulae; Margarine Production; Oils and Fats Composition; Spoilage, Fat in Food; Vitamin A, Daily Recommendations; Vitamin D, Food

Margarinomyces Bacteria that cause food spoilage
See Part 2: Spoilage, Fat in Food

margarita An alcoholic beverage made from $1\frac{1}{2}$ oz (1 jigger) tequila, $\frac{1}{2}$ oz Triple Sec, 1 oz lime or lemon juice; moisten glass rim with fruit rind and spin in salt; shake ingredients with ice and strain into glass

margaux A red wine

margherite An Italian, cream cheese

margheritina A ribbon pasta

margin The difference between cost and sale price; money deposited as a guarantee of performance on the purchase or sale of a futures contract

Original margin—hedge markets

Variation margin—difference between contract price and the current market price

marianhof See **limburger cheese**

maribo A large, round, acidic, gouda-type cheese filled with irregular holes; may be flavored with caraway

marienhofer A soft to semisoft, strongly flavored, cheese made from cow's milk and ripened by surface bacteria

marigold (poor man's saffron; *Calendula officinalis*) The flowers and the green parts of sweet-scented marigold sometimes used as seasoning; petals are used fresh or dried and sometimes used to color cheese

marinade 1) A seasoned liquid (often French dressing or pickle, spiced wine, vinegar, or an acid juice, such as tomato and citrus) in which food is allowed to stand or steep before cooking or serving; used to flavor and tenderize. 2) Fish cured in acidified brine, with or without spices

marinara, alla Food prepared sailor-style

marinate To let food stand in a liquid such as acetic acid, vinegar, olive oil, lemon juice, or brine

marine oil An oil obtained from fish or marine mammals

See Part 2: Oils and Fats Composition; Unsaturated Fatty Acids

marino An everyday wine produced in the region of Rome

Types: red, rosé, white

marjoram (joy of the mountain; knotted marjoram; sweet marjoram)

European species—*Origanum dictamnus*, *O. onites*, *O. pulchellum*, *O. sipyleum*

Golden marjoram—*O. aureum*

Knotted marjoram—*O. marja(o)rana hortensis*

Pot or common marjoram—*O. vulgare*

Spanish—*Thymus mastichina*

1) A popular perennial, treated as an annual herb, with purple blooms and gray-green leaves. Thin to 6 in. in rows 12 in. apart; maturity requires 70 days; 2 ft tall; cut plants before they flower. Wild marjoram is called oregano; sweet marjoram is the cultivated variety. 2) A fragrant and very popular herb made from the dried, green leaves and flowering tops of a mint family plant found both whole and dried; used as flavoring; leaves are gathered or whole plant is cut and sold in bunches; leaves are cut, whole or medium to fine grind, or powdered

Uses:

Dressing

Meat

Pies

Sausage

Soups

Stew

Stuffing

Aroma is aromatic, camphoraceous, spicy-warm; flavor is like oregano, bitter

Types:

Mediterranean

Pot

Sweet

Wild

Winter

Sources: Egypt and France

Composition: moisture 7–8% (max. 12); protein 12–14%; fat 7–8%; carbohydrate 60–61%; fiber 18–19%; ash 12–13% (max. 16); 1% v/w average volatile oil (0.7% minimum); 4.5% maximum HCl insoluble ash

Storage: dried leaves in an airtight container See **oregano**

See Part 2: Flavoring Agents, Natural

marjoram butter An herb butter; soften $\frac{1}{2}$ stick, unsalted, sweet butter and add 1 tbsp finely minced, fresh marjoram or $\frac{1}{2}$ tsp dried marjoram; cream together with a few drops of lemon juice

marjoram jelly An herb jelly; infuse $2\frac{1}{2}$ cups boiling water over 1 cup fresh marjoram; let cool and strain. To 2 cups of marjoram infusion add $\frac{1}{4}$ cup of vinegar or apple cider and $4\frac{1}{2}$ cups sugar (boil till dissolved); add $\frac{1}{2}$ bottle of liquid pectin and boil $1\frac{1}{2}$ min; remove from heat, add 2 drops of liquid coloring (optional), fill sterilized jelly glasses, and seal with melted paraffin

marjoram oil A volatile, light yellow oil, steam distilled from the flowering plant of Spanish marjoram (*Thymus mastichina*); used as a food flavoring agent

Refractive index 1.463–1.468 at 20°C

Sp. gr. 0.904–0.920 g/ml

Optical rotation –5 to +10°

Storage: full, tight, glass container in a cool, dark place

mark code A six digit number that can be used to identify the plate and inside and outside enamel of a container

market basket A term used to describe the weekly food purchases (includes all seven food groups) for a family

market class See Part 2: Sheep Market Classes and Grades

marketing certificates Certificates issued as part of the price support program; they may be redeemed for cash or commodities

marketing loan A loan that may be repaid at a level below the rate at which the loan was made

marketing orders and agreements Programs that permit agricultural producers collectively to promote orderly marketing of a crop or commodity

marketing quota The quantity of a crop that will provide adequate and normal market supplies. This is translated into individual farm marketing quotas. A producer cannot market more than his/her quota without penalty

marketing spread The difference between the price the producer receives for a commodity and the price paid by the consumer

marketing year A 12-month period beginning at the start of harvest of a crop and extending to the same time in the following year.

Crop	Market year starts
Barley	June 1
Corn	Sept. 1
Grain sorghum	Sept. 1
Oats	June 1
Soybeans	Sept. 1
Wheat	June 1

market oriented farm policy A policy of letting prices be set primarily in a public market rather than by government actions

market price The amount received or paid for a unit of a commodity

market temper The fluctuations of the market climate as perceived by the buyer and based on information from constant contact with suppliers

markouk A leavened, thin flat bread usually made from high-extraction, wheat flour

marl (merl) A liming material composed of 60% CaCO_3 and clay; each pound has the neutralizing equivalent of 0.5–0.9 lb of CaCO_3 (or approx. this quantity of dolomitic limestone) See **lime**
See Part 2: Liming Materials

marlin (spearfish) A saltwater food fish
Black (Pacific)—*Makaira indica*; *M. nigricans*
Blue (Atlantic)—*M. nigricans*
Striped (Pacific)—*Tetrapturus audax*; *M. audax*
White (Atlantic; Pacific)—*T. albidus*; *M. albidus*

marlot A grape used to make an Italian, ruby-red wine

marmalade Small pieces of pulpy fruit [e.g., citrus fruit (all or part of rind is included) or figs] suspended in a clear, smooth, tender, jellylike mixture (1 lb or more sugar/lb of fruit). A preserve made from thinly sliced or chopped citrus fruit, combined with sugar, sometimes combined with pectin, and cooked to a jelly consistency; sealed for storage. Differs from jelly by having suspended slices of fruit or peel in the clear jelly

1 tbsp = 0.5–0.7 oz

See **jellied products**

See Part 2: Standards, Processed Fruit and Vegetable Products

marmalade, orange

Type of fruit used:

Bitter orange

Sweet orange usually blended with lemon or grapefruit

marmelo See **quince**

marnique A quince (*Cydonia oblonga*) liqueur

maroilles (marolles) A pungent, square cheese with a thick, red rind See **maroilles**

maroilles (maroilles; marolles) A semihard, strong flavored, fermented cheese made from whole cow's milk and that is rectangular-shaped (200–800 g) and covered with a red-brown rind; a soft, French cheese with a brine-washed, gold-colored rind and a distinctive flavor See **maroilles**

maroilles cheese A semihard, sharp, fermented, French cheese made from whole milk

maromme A camembert-type cheese made from cow's milk

marong-gay See **malunggay**

marquise A frozen dessert made by mixing a fruit sherbet with flavoring and whipped cream

marron A large, French chestnut containing one seed per pod; chestnut meat that is preserved and packed in vanilla-flavored syrup

marrons glacés Preserved and glazed chestnuts

marrow 1) A soft, fatty, vascular, connective tissue; soft substance found in the medulla (spaces) in spongy bone; the building site of red blood cells; often used for food

See Part 2: Organ Weights

2) A climbing herb (*Cucurbita* sp.) that produces a pepo; 65–140 seeds/oz; 6–8 days germination period;

the varieties yield fruit of many colors and shapes; pH 4.7–5.6

Varities:

Courgette, zucchini—picked when immature and only a few inches long or when about 9 in. long; when mature they are similar to the vegetable type

Custard marrow—scalloped summer squash; shape of a flattened sphere, white or yellow in color

Vegetable Marrow—an oval cylinder with a rind that may be green or white striped; vegetable may weight up to several pounds; it is boiled or parboiled and baked

Use: cooked vegetable, jams, chutneys, soups, wine

See **squash**

Marsala A fortified, 12–20% alcohol, yellow, dessert and cooking wine produced in Sicily

Types: dry, specially flavored, sweet

marsh hay See **salt hay**

marshmallow 1) A confection of soft, creamy consistency made from egg albumin or gelatin and sugar or starch syrup; originally made from the root of the althea plant (*Althea officinalis*).

Equivalents:

1 lb = 4 cups marshmallows

7–10 oz = 40 regular marshmallows

= 3 cups miniature marshmallows

= 2 cups marshmallow creme

$\frac{1}{4}$ lb = 15 regular marshmallows

1 oz = 3–4 regular marshmallows

1 average marshmallow = 1.5 tsp sugar

4 large marshmallows = 90 calories

See Part 2: Sugars and Sweets Composition; Water Activity, Organisms and Food

2) An herb (mallards; quimaue; schloss tea)

marshmallow creme A form of marshmallow that has a spreadable consistency; made of corn syrup, gelatin, and sugar and flavored with artificial vanilla extract

marsh rabbit See **muskrat**

Marsh Seedless A variety of grapefruit

martini A mixture of vermouth and gin; a mixed drink containing 4 parts gin or vodka and 1 to 2 parts dry or sweet vermouth; stir with ice, strain, and add green olive, lemon twist, or pickled onion; a dry type of gin; when sweet it is mixed with vermouth

Cocktail proportions:

Type	Gin	Vermouth
American	$> \frac{2}{3}$	$< \frac{1}{3}$
Dry	$\frac{2}{3}$	$\frac{1}{3}$
French	$\frac{1}{2}$	$\frac{1}{2}$

martinique A type of salad dressing

See Part 2: French Dressing Variations

martynia (unicorn plant; *Proboscidea jussieui*; *P. louisianica*) A plant that yields green, seed pods, which when young, immature, and newly formed can be pickled like sweet cucumbers

maruzze A shell-shaped pasta

marvany A blue cheese

marwa A sorghum beer

Maryland See **Swine Breeds**

Maryland No. 1 A breed of hogs produced by crossing Berkshire (38%) and Landrace (62%) breeds; it is black and white in color and has erect ears

marzipan (almond paste) A mixture of ground almonds, sugar, and egg white that can be molded into fancy shapes

Ingredients:

- 8 oz can of almond paste
- 1.5 tbsp light corn syrup
- 1.3 cups sifted powdered sugar
- liquid food coloring

Glaze ingredients:

- 2 tbsp light corn syrup
- 0.25 cup water

See Part 2: Water Activity, Organisms and Food

masa A paste made from white corn that has been soaked and ground; ground mixtamal (whole grain maize soaked in 1% lime solution); dough made from mixtamal and used to make pozol and corn bread See **maasa**

masa flour See **flour, masa**

masata Chicha made from yucca plant or cassava

mascarpone (mascherpone) A whipped, acidic cream used as a dressing; small, fresh, cream cheese sold in muslin; soft cheese that tastes like whipped cream; sometimes flavored with liqueur or brandy and sugar

See Part 2: Cheese, Vitamin Content

mascone A soft, white, fresh cream, Italian cheese

masculinity Possession of secondary male sex characteristics, such as heavy head, neck, and shoulders

mash (mash feed) To reduce to pulp; mashed potatoes; malt heated with water as the first step in brewing, used to extract solubles and reactivate enzymes; a mixture of feed ingredients in meal form See **urdbean**

mascha (Indian sorrel; sour-sour) A bitter, oriental herb used to flavor curry, soup, stew, and salads

Masham A breed of sheep produced by crossing Swaledale and Teeswater

mashing Ground grain and a small amount of malt is heated with water and then cooled; malt is added and brought to 140–150°F, at which time the starch is converted to maltose See **beer**

masi Poi produced from unripe bananas (*Musa*)

mask To improve the looks or taste of food with sauce or seasoning; to coat with sauce or aspic; to cover a food or flavor

masking When two flavors neutralize each other

Masonite Proprietary name for an insulating board made by steam-treating wood chips at high pressure See Part 2: Insulation

mass The amount of matter contained in a body, regardless of its location in space; for example, it is the same on the moon as on the Earth. Mass is different from weight in that weight involves the

concept of gravity; thus the weight of an object on Earth differs from its weight on the moon

massa (masa) Shallow-fried cakes made from millet or sorghum flour

massecuite See **magma**

mass number The sum of the protons and neutrons in an atomic nucleus See also **atomic number**

mass unit An arbitrary value of mass; the proton has a mass of 1, and is therefore the basic mass unit; neutrons have a mass of 1.008

See Part 2: Constants, Fundamental

mast Yogurt

mastic (*Pistachia lentiscus*) An evergreen whose sap is used for flavoring; a licorice-flavored gum produced by making cuts in the bark of the mastic bush See **mastika**

mastication The grinding, reduction in size, mixing, and addition of saliva that takes place in the mouth

mastika An herb liqueur that is anise or licorice flavored and contains gum resin of the mastic bush (*Pistachia lentiscus*)

mastitis A disease of the udder caused by bacteria, which produce tissue changes; permanent destruction of milk-secreting tissue caused by many types of bacteria, the most prevalent of which are *Staphylococcus* and *Streptococcus*

mastuerzo A tree that produces leaves that are used in salads

masvusvu A nonalcoholic, sour drink made from maize

mat See **moth bean**

maté (Brazilian tea; Paraguay tea; yerba de maté; yerba maté; *Ilex paraguariensis*) 1) A tropical, beverage crop whose leaves are picked, dried, and ground; used to make a tealike drink. 2) A coffee substitute that is brewed like tea and contains caffeine. 3) A tea made from a South American tree leaf; an acquired taste; sold roasted or in shredded green leaf form; add 1–2 tsp/cup of hot water or milk and serve with sugar; may be served hot or iced

matelote A fish stew

material requirements planning (MRP) A set of techniques to calculate material requirements using bill of material, inventory data, and the master production schedule

Mateus rosé A proprietary name for a type of rosé wine

matière grasse The percentage of fat, expressed on a dry-weight basis

Ma-t'ou goat A white, polled, bearded, very prolific goat raised for meat and milk and found in Hupeh (Hubei, central China)

matrasa A red wine

matsoni Yogurt

matson A yogurt made from buffalo's, cow's, or goat's milk

matte finish plate Electrolytic tin plate that has not been brightened by melting the tin coating

matto A fermentation of bolted soy beans

ma tung See **kumiss**

maturation A stage of development leading to the attainment of physiological maturity; ripening; maturing

mature 1) Full or complete development; ripeness. 2) Fruit that is ready to pick, whether or not it is ripe; if mature, it is capable of ripening after picking; if immature, it will not ripen after picking

mature duck A bird of either sex over 6 months old

mature green See **hard**

mature turkey A bird of either sex over 15 months old

maturing agent (bread improver) An additive that accelerates the aging process and improves baking quality; will develop the gluten characteristics necessary for baking much more rapidly than will occur naturally; a chemical used to accelerate oxidation and speed up the natural aging process of flour, which improves the baking quality

maturity A stage of development when eating or processing quality is at its peak

matzo An unleavened bread

matzoon A yogurt made from buffalo's, cow's, or goat's milk

matzoth (matzos) Jewish, unleavened bread eaten during Passover; a thin, brittle, biscuit-shaped, unleavened bread made from flour and water

Variations:

Chrimsels—matzoth, water, raisins, and eggs, shaped like a pancake and fried

Blintzes—matzoth folded over jelly or cottage cheese and fried

mauby A bitter, ginger beer flavored with mauby tree bark

maund (standard) A unit of weight used in India and Pakistan

1 maund = 0.037324 metric ton

mauloh A pickled vegetable

maurette A sauce of wine, butter, flour, and spices

mavrodaphne A sweet, red, fortified, Greek, dessert wine

mavrud A dry, red wine

maw A stomach, particularly the fourth stomach of a ruminant or the craw of birds

mawby See **mauby**

maxilla The upper jawbone
See Part 2: Fish Nomenclature

maximum price fluctuation limitation The maximum amount that the contract price is permitted to move, down or up, during a trading session

maxwell (Mx) A unit of magnetic flux equivalent to 1 gauss per centimeter squared
1 maxwell = 0.001 kiloline
= 1×10^{-8} weber

Maxwell disc See **color wheel**

mayapple (hogapple; mandrake is a misnomer; maypop; wild lemon) A small, yellow, egg-shaped fruit that contains many seeds and is often used to make marmalade

mayonnaise 1) An uncooked, semisolid, permanent emulsion in which oil (often cottonseed or corn oil) is held in water suspension by egg yolk and vinegar or lemon juice; may be flavored with salt, pepper, and mustard; minimum 65% (most contain 75–80%) vegetable fat; the only emulsifying ingredient is egg yolk (cholesterol); the acid ingredient is vinegar or lemon juice (citric acid to $\frac{1}{4}$ acetic acid in vinegar); vinegar and salt are the principal bacteriological agents. 2) Dressing often made from egg yolk, lemon juice, mustard (optional), olive oil, salt, and white pepper

Typical ingredients:

2 egg yolks
1 tsp dry mustard
1 tsp salt
1 tsp sugar
dash of cayenne
1 tbsp vinegar
 $1\frac{1}{2}$ cups salad oil
1 tbsp lemon juice

Equivalents:

1 cup = 7.2–8.6 oz
1 tbsp = 0.5 oz

Stain removal from cloth—scrape off excess, use laundry pretreat spray or cleaning fluid, rinse in cool water, wash in hot suds

Composition: moisture 15%; protein 1%; fat 80%; carbohydrate 2%; ash 2%; pH 4.2–4.5; sodium 78 mg/tbsp (15 g)

Storage: Refrigerate after opening

See also **emulsion**

See Part 2: Calories, Daily Recommendations; Fats and Oils, Composition; Food, Composition; Mayonnaise; Mayonnaise and Salad Dressing; Salad Dressing and Mayonnaise Variations

maypop See **mayapple**

may wine A beverage made from Rhine wine, claret, and champagne, seasoned with woodruff, strawberries, oranges, and pineapple

mazagan See **broad bean**

maziwa lata A yogurt that may have wood ash added

Mazola oil A brand of corn oil

mazun A yogurt made from buffalo's, cow's, or goat's milk

MB-BCP medium See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

mbege A beer made from millet and bananas

mbor Acidic dumpling made from 90% extraction, maize flour

mbote A sweet, fermented, alcoholic beverage made with honey; often flavored with fruit juice and spices

M broth See Part 2: Microorganism, Media

mc Megacycles per second

McCallum's macerating fluid A mixture composed of nitric acid 1 part, glycerin 2 parts, water 2 parts

458 McClung Toabe agar

McClung Toabe agar See Part 2: Microorganism, Media

McCollum E. V. An American who suggested that "accessory factors" in addition to protein, carbohydrates, and fats are needed in the diet

McDaniel spider mite (*Tetranychus mcdanieli*) A pear tree pest; adult in winter is yellow or orange; when feeding, yellow to green with two dark spots and will spin a web; damaged foliage is bronze in appearance and it interferes with normal fruit development

MCH Maternal and Child Health Care

MCHC Mean corpuscular-hemoglobin concentration
MCHC = $\text{Hgb} \times 100 / \text{PCV}$

See Part 2: Blood

mCi: millicurie

McIntosh red A variety of apple that is in season from Sept. to March; makes excellent sauce and good eating and cooking

M coliform broth See Part 2: Microbiological Media

MCPA A phenoxy herbicide; chemical name [(4-chloro-o-tolyl)oxy] acetic acid

MCV Mean corpuscular volume of red cell

$$\text{MCV} = \text{PCV} \times 10 \text{ RBC} \times 10^{-6}$$

See Part 2: Blood

Md Symbol for the element mendelevium

MDR See **minimum daily requirement**

ME (M.E.) Metabolizable energy See **metabolizable energy**

mead A sweet, fermented, alcoholic beverage made with honey, malt, and yeast; sometimes flavored with fruit juice and spices

mead agar See Part 2: Microbiological Media

meadow cress (*Cardamine pratensis*) A wild plant used in salads and soups

meadowsweet (*Spirea ulmaria*) A native North American shrub; leaves used in soup and flowers used to make tea

meal 1) Coarsely ground or powdered grind of pulse or cereal; ground edible part of some grain, e.g., corn. 2) Assembled dishes to be consumed at one time. 3) Time of eating. 4) Food eaten. 5) Volume of milk obtained at one milking. 6) Ground or reduced in particle size ingredient

mealiepap See **agidi**

meal, whole wheat A ground, cleaned wheat that is finer than crushed or cracked wheat

mealy The crumbly quality of meal; starch or corn-meal-like texture

mealybug See **grape mealybug**

mean (μ) Center of a distribution; estimated by sample mean $\bar{x} = \Sigma X/n$; interval estimate of μ :

$$\bar{x} - t_{0.05} S_x \leq \mu \leq \bar{x} + t_{0.05} S_x$$

Probability is 95% that above area will include μ

$t_{0.05}$ = table t value at probability desired (95% used here)

$$t(df) = n - 1$$

S_x = standard error

See also **randomized group comparisons for confidence limits on the difference of means**

mean error See **mean square**

mean lethal dose (Do) Radiation dosage that will kill 63% of the population

mean square (s^2) Variation of observations; it is the square of the sample standard deviation

$$s^2 = \frac{\Sigma x^2}{n - 1} \quad \begin{array}{l} x = \text{deviations from mean} \\ n = \text{sample size} \end{array}$$

Pooled mean square for equal size randomized groups

$$s^2 = \frac{\text{pooled } \Sigma x^2}{2(n - 1)} \quad n = \text{no. in 1st group}$$

Pooled mean square for unequal size randomized groups

$$s^2 = \frac{\text{pooled } x^2}{(n_1 - 1) + (n_2 - 1)}$$

Test for homogeneity of variance (H_0): $\sigma_1^2 = \sigma_2^2$

$$F = \frac{\text{larger } s^2}{\text{smaller } s^2} \quad s^2 = df = n - 1$$

See Part 2: F -Distribution

means test A test of the difference between two or more means; a = no. of treatments; n = obs. per treatment 1) Tukey: In a means there are $a(a - 1)/2$ comparisons

$$D = Qs\bar{x}$$

$$s\bar{x} = \left(\frac{\text{mean square of individuals or error}}{n = \text{observations in the mean}} \right)^{1/2}$$

Q = table value a = no. of treatments

$df = df$ for individuals or error $(n - 1)a$

Treat- ment	Treat- ment				
	mean \bar{x}	$\bar{x}_1 - \bar{x}_a$	$\bar{x}_1 - \bar{x}_{a-1}$	\cdots	$\bar{x}_1 - \bar{x}_2$
1	—	—	—	\cdots	—
2	—	—	—		
3	—	—			
\vdots	\vdots				
a	—	—			

D compared with differences

C.L.— $i = 1-a$

$$(\bar{x}_i - \bar{x}_i) + D \leq \mu_i - \mu_i \leq (\bar{x}_i - \bar{x}_i) - D$$

2) Keuls test (more powerful): Uses different Q depending on how far in sequence the means are apart.

Q from table $df = (n - 1)a$ does not change

$a = 2$: adjacent means

3: means with one between them

4: etc.

\vdots

\hat{a} : extreme means

measuring cup A container having a capacity of $\frac{1}{4}$ quart (236.6 cc, $\frac{1}{2}$ pint, 8 oz, 16 tbsp)

1 cup (American) = 8 fl. oz
= 16 tbsp

2 cups = 1 pt

1 cup (British) = 10 fl. oz
= 20 tbsp

See also cup

meat Meat inspection definition: all edible parts of muscle of cattle, sheep, swine, or goats that is skeletal; includes tongue, diaphragm, heart, esophagus; also bone, skin, sinew, nerve, and blood vessels that normally occur in muscle tissue; does not include lips, snout, or ears

1 pound, uncooked = 2 cups cooked and chopped

1 pound, fresh (a lot of bone or gristle)
= 1-2 servings

1 pound, fresh (medium amount of bone or gristle)
= 2-3 servings

1 pound, fresh (little or no bone or gristle)
= 3-4 servings

1 lb, uncooked = $2\frac{3}{4}$ cups cooked and ground

5 cups, diced cooked meat = 1 pound

4 cups, ground cooked meat = 1 pound

2 cups, chopped uncooked meat = 1 pound

Equivalents:

1 oz lean meat = 4 sardines
= 3 tbsp cottage cheese plus $\frac{1}{2}$ tbsp of butter
= 2 tbsp peanut butter
= 1 frankfurter
= 1 egg
= $1\frac{1}{4}$ -in. cube of cheese
= 1 oz salmon
= 1 oz tuna
= 1 oz lean fish plus 1 tbsp butter

Storage: Coldest part of refrigerator; original wrapper, 1-2 days; unwrap and cover loosely (roast, chops, steaks), 3-5 days. Leftover, cooked: cool quickly, cover and refrigerate; use in 3-4 days

See Part 2: Animal Foods, Composition; Braising Meat; Broiling Meat; Broiling Griddle, Meat; Calories, Daily Recommendations; Cooking in Liquid, Time; Defrosting Time; Food, Composition; Food Guide; Frozen Food Storage; Frozen Meat Storage Time; Glutamate; Grades, Meat; Liquid Cooking of Meat; Meat and Meat Products Composition; Meat Curing Ingredients; Meat, Frozen Storage; Meat Grade Stamps; Meat Identification; Meat Inspection Stamp; Meat, Nutritive Value; Meat Pigment; Meat, Servings per Pound; Meat Storage; Microwave Processing Time; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Moisture in Biological Materials; Nicotinic Acid, Food; Nitrate, Meat Curing; Pan Broiling Meat; Pan Frying Meat; Portion Size; Potassium-Rich Foods; Poultry Yield; Protein Factors; Riboflavin, Food; Roasting Meat; Roasting, Time and Temperature; Simmering Meat; Spoilage, Protein Foods; Stabilizers, Thickeners; Storage Times; Thiamin, Food; Vitamin A, Food; Vitamin Retention, Meat; Yield Grade Meat

meat analogs Vegetable protein made to resemble meat cuts in texture, flavor, and color

meat and (with) bone meal (meat meal; tankage) Composition: dry matter 93%; protein 50%; fat 9.7%; fiber 2.2%; ash 29.3%; Ca 10.3%; P 5.1% *See meat scrap*

meat and bone meal digester tankage *See meat meal tankage*

meat and bone meal tankage *See meat meal tankage*

meat and bone scrap *See meat scrap*

Meat and Livestock Commission (MLC) A British organization concerned with swine improvement through breeding

meatball A molded or shaped ball of minced or chopped meat; small, round balls made from ground meat; max. 12% singly or collectively of farinaceous material, soya flour, soy-protein concentrate, nonfat dry milk, calcium reduced dried skim milk, and similar materials with ground meat

meat color *See Part 2: Color, Meat; Meat Pigment; Nitrate, Meat Curing*

meat extract The liquids pressed from raw meat, usually beef; used as a foundation for soup *See beef extract*

meat fat *See Part 2: Fat and Oil Composition*

meat grade Denotes the degree of conformation, finish, and quality of a carcass of meat

Beef	Veal	Lamb	Pork
Prime	Prime	Prime	U.S. No. 1
Choice	Choice	Choice	U.S. No. 2
Select	Good	Good	U.S. No. 3
Standard	Standard	Utility	U.S. No. 4
Commercial	Utility		U.S. Utility
Utility			
Cutter			
Canner			

meatiness The amount of muscle in relation to fat and bone

Meat Inspection Division of the Bureau of Animal Production Former name for Animal and Plant Health Inspection Service (APHIS), which is the agency responsible for Federal meat inspection; its duties include: elimination of bad meat; enforcement of sanitary preparation; checking for harmful ingredients; guarding against false or misleading labels

meat juice

Stain removal from cloth—soak in cold water and an enzyme product; bleach if needed

meat loaf Ground meat (often a mixture), often mixed with bread crumbs, and baked in a loaf shape *See loaf (2)*

meat meal *See meat scrap*

meat meal tankage Live steam- or dry-rendered, finely ground, dried residue from animal tissues, exclusive of hair, hoof, horn, manure, and stomach contents; when it contains more than 4.4% phosphorus, the word "bone" must also be included in the name; approx. 1.6 lb/qt; 51 lbs/bu

meat pastes (potted meat) Meat, poultry, or game in paste form *See deviled; potted meat*

meat patty A flat round cake of chopped, fresh, or frozen meat; water, binders, or extenders may be used

460 meat patty mix

meat patty mix See **meat patty**

meat pie Any of a variety of meat fillings (stewlike with gravy) and crust

meat, potted Simmered meat pounded into a paste, placed in a pot, and covered with butter.

See Part 2: Meat Composition

meat product A product containing meat that is intended for human consumption

meat scrap Dry-rendered, finely ground residue from animal tissue, exclusive of hair, hoof, horn, hide trimmings, blood meal, manure, and stomach contents; when it contains more than 4.4% phosphorus, the words "and bone" must be added to the name; feed 1.3 lb/qt; 42 lb/bu; can be used as a nitrogen and phosphorus fertilizer

Composition: dry matter 94%; protein 51%; fiber 2.7%; fat 9.1%; ash 27%; Ca 8.8%; P 4.4%

See Part 2: Packinghouse By-Products Composition

meat specialties A variety of chopped, comminuted, cured or uncured meat that is seasoned, usually cooked or baked, and not smoked; usually manufactured in loaves and sliced and served cold, e.g., chopped ham loaf, condiment loaf, head cheese, jellied corn beef, luncheon meat, minced ham, peppered loaf, scrapple, and souse

meat stamp ink A vegetable dye (food color) certified by Food and Drug Administration; it is combined with water, alcohol, and sugar and used by federal inspectors to stamp grades of fresh meat; it is an edible product See also **ink (meat inspection)**

meat tenderizer

Sodium content:

Regular: 1,750 mg/tsp (5 g)

Low sodium: 1 mg/tsp (5 g)

meat type A classification of hogs that usually includes the following breeds: Berkshire, Chester White, Duroc, Hamprace, Hampshire, Hereford, Kentucky Red Berkshire, Minnesota No. 1, Minnesota No. 2, Ohio Improved Chester, Poland China, and Spotted Poland China

mebos Dried apricots

mechanically deboned meat (MDM) Meat removed from bones by machine; now called mechanically processed (species) product

mechanically processed (species) product Muscle and fat plus some marrow and bone powder obtained mechanically from bony parts of the carcass

mechanical vacuum capper A closing machine that uses a vacuum pump to produce a vacuum in a glass container

mecklenburg A skimmed milk cheese with rennet added and colored with saffron

mecklenburger A hard, dry, low-fat, yellow (saffron), grating cheese made from cow's milk

medaffarah A hard, dry, low-fat, grating cheese

media See **medium (1)**

medial The midline, middle, or middle plane

median The value of the middle item of an array if n = odd; it is the average value of the two center items of an array if n = even

median plane Middle plane, where carcass is split, divides into right and left sides

medic A legume

Black (*Medicago lupulina*)

Burr (*M. polymorpha*)

Button (*M. orbicularis*)

Harbinger (*M. littoralis*)

See Part 2: Seed, Germination

medic, black (*Medicago lupulina*) An annual or biennial legume that resembles hop clover; used for pasture

medicinal Describes a medicine-like flavor or odor

medister A moist, cooked or uncooked, smoked or unsmoked Icelandic sausage made from finely chopped, medium seasoned beef and pork with pork fat added and stuffed into a pork or artificial casing

medisterkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned beef, pork, and veal and stuffed into an artificial casing

Composition (max.): moisture 65%; fat 23%; binder 3%

medisterpölse A moist, uncooked, unsmoked Danish sausage made from medium chopped, mildly seasoned, pork and stuffed into a pork casing

medium 1) A solid liquid nutrient material that is suitable for the reproduction and growth of microorganisms; often called culture medium; plural form is media

See Part 2: Culture Media, Specific Groups of Microorganisms; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant; Microorganism on Differential Tube Media

2) A degree of doneness in meat cookery; e.g., internal temperature of beef cooked to medium doneness is 160°F

See Part 2: Beef Degrees of Doneness; Beef Roasting; Broiling Time and Temperature; Casings, Hog; Casings, Sheep

3) Average, moderate, middle

medium acid See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH

medium aged cheese See **cured cheese**

medium dose In food irradiation: doses between 1 and 10 kilograys (kGy) (100 krad and 1 mrad)

medium-wool mutton-type sheep Classification of sheep that includes the following breeds: Cheviot, Columbia, Corriedale, Dorset, Hampshire, Oxford, Panama, Shropshire, Southdown, and Suffolk.

See Part 2: Sheep Breeds

medlar (*Mespilus germanica*) A fruit with brown skin and firm flesh; similar to the quince, except that the eye is open; it may be eaten off the tree (2 weeks after picking) or made into jam

Médoc A full-bodied, balanced, red, table wine from the Bordeaux (southwest France) area

Communes	Wine type	Famous chateaux
Margaux	Medium weight fine wine	Margaux Rausan Segla
Paulliac	Fine quality and bouquet	Lafite Latour Mouton Rothschild
St. Estephe	Fruity	Calon Segur Cos d'Estournel Beychevelle
St. Julien	Delicate and fragrant bouquet	Gruaud Larose Leoville-Barton Leoville-Lascases Leoville-Poyferre

medok A sweet, fermented, alcoholic beverage made with honey and often flavored with fruit juice and spices

medulla Inner portion *See also* marrow

medulla oblongata Lower portion of the brain that attaches it to the spinal cord

medullary cavities Hollow tubes in long bones

medwurst A heavily smoked cervelat

mee (mei; mie) Fine noodles

mega- (M) A prefix for quantities one million times larger than the base unit; a prefix indicating 10^6

megaline

1 megaline = 1×10^6 maxwells

megaton (Mt)

1 Mt = energy released by 1,000,000 tons of TNT

megacalorie (Mcal)

1 Mcal = 1000 kcal
= 1 therm

megohm (meg; MΩ) 1,000,000 ohms

megrim (*Lepidorhombus whiffiagonis*) A flat, saltwater, food fish

mei *See* mee

mei kwei lu chiew A digestive liqueur

mein Noodle

meiosis Cellular division [two successive divisions of four phases (prophase, metaphase, anaphase, telophase)] that reduces the normal number of chromosomes by half; nuclear division and production of daughter cells with half the number of chromosomes of the original cell; cell division in which the chromosome pairs are divided into new cells during sperm and ova formation

meira A semihard cheese made from sheep's milk and matured in sheepskin for 6–12 months

meitauza Soybean presscake from sufu production
See Part 2: Fungi Food Products

mejette A ricotta-type cheese

mejia Sufu soybean curd

meju A soy sauce

MEK *See* methyl ethyl ketone

mekhalel A pickled vegetable

mela Germinated, dried grains of sorghum; used as malt for sorghum beer

mélange An uncooked, French, fruit (strawberries, cherries, sometimes bananas, oranges, pineapple) preserves (equal quantities of fruit and sugar) flavored with brandy; other fruit (apricots, blackberries, currents, peaches, plums, raspberries) is often added

melanose A field disease of citrus fruit caused by the fungus *Phomopsis citre* Fawc.; appears as small, brown, raised, pin-head-size spots and has a sandpaper feel; when these spots coalesce to form large patches, they are called mudcake; does not spread in storage

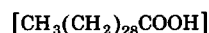
melba 1) A crisp, thin ($\frac{1}{8}$ in.), crunchy toast. 2) A fresh raspberry sauce

melengestrol acetate A drug that promotes growth and improves feed efficiency

melezitose ($C_{18}H_{32}O_{16}$) A trisaccharide made up of two molecules of glucose and one of fructose; found in the exudate of the fir and other trees

melilot (*Melilotus officinalis*) A perennial, leguminous herb whose leaves and flowers are dried and crushed and used as flavoring

melissic acid (triacontanoic acid)



A saturated fatty acid occurring in montan and other waxes

See Part 2: Saturated Fatty Acids

melitose *See* raffinose

melitriose *See* raffinose

mellanol A medium strength, alcoholic beer

melloco A staple, root vegetable

mellow Fully ripe fruit

melnik A dry, red wine

melon (*Cucumis melo*) An annual, trailing herb (vine) that originated in the Mediterranean, Middle East, and African areas; varieties produce fruit that is variable in size from egg size to 20 lb; spherical to flat, oblong to serpentine shape; textured rind is smooth to warty to densely netted to deep-ribbed; skin color is white, yellow, light green, or gray-green; flesh color is from red to orange to green; 60% edible 850 seeds/oz; 4–5 days germination period

Types:

Cantaloupe (*C. m. cantaloupensis*)—fruit is light green to yellow; warty or scaly rind; not netted; deep-grooved, hard rind; flesh is light green to pinkish green to orange

Dudaim melon (pomegranate melon; Queen Ann pocket melon; *C. m. dudaim*)—inedible; size of a lemon

Muskmelon (netted melon; nutmeg melon; *C. m. culta* or *reticulatus*)—smooth rind (or broad ribs) that is yellow or green; covered with a raised, lighter colored, prominent net; $1\frac{1}{2}$ –15 lb

Yellow flesh: Benders Surprise, Emerald Gem, Hales Best, Harts of Gold, Honey Rock, Persian, Pride of Wisconsin

Green flesh: Extra Early Hackensack, Netted Gem, Rockey Ford

462 melon (*Cucumis melo*)

Orange melon (chito; garden lemon; mango melon; melon apple; vegetable orange; vine peach; *C. m. chito*)—only used for preserving

Pineapple melon (*C. m. saccharinus*)—sweet flesh; good keeper

Snake melon (snake cucumber; *C. m. flexuosus*)

Watermelon—See **watermelon**

Winter melon (*C. m. inodorus*)—smooth or shallow corrugated; not netted; hard skin; rind color white to dark green; flesh pale green to yellow; stores well; flesh is consumed raw, pickled or used in soup; hard covering of seed is removed and eaten; also yields an edible oil on extraction Casaba—hard, ridged, yellow rind; round; 5 lb Honeydew—hard, smooth white rind; 5 lb

1 cup melon balls, frozen in syrup = 8.2 oz

Composition (raw): moisture 90–93%; protein 0.5–1.2%; fat 0.1–0.3%; carbohydrate 6–8%; ash 0.3–0.8%; pH 5.5–6.7

Storage: Unwrapped (85–90% relative humidity); cool room temperature (45–50°F); use within weeks; wrap cut melon in cellophane or waxed paper and refrigerate

See also **cantaloupe; casaba melon; honeyball melon; honeydew melon; Persian melon; Santa Claus melon; watermelon**

See Part 2: Ascorbic Acid; Calories, Daily Recommendations; Flavor Ingredients, Taste and Flavor Type; Fruit and Vegetable, Diseases; Fruit Classification; Fruit Composition; Fruit Storage; Storage; Sugar, Vegetables

melon aphid (*Aphis gossypii*) An aphid that is also found on pears

melon-pear (pipino; *Solanum muricatum*) A plant native to Peru that produces a 6-in., egg-shaped fruit that is yellow splashed with violet; aromatic, juicy, tender yellow flesh; fruit is similar to an acid eggplant

Storage: cool place; keeps well

melon pickle worm See Part 2: Insect Control

melon winter A large, round, pulpy melon with white flesh

melt (milt) 1) Spleen. 2) To change from solid to liquid by heat

melting The flesh texture of a peach used for dessert or processing; e.g., Elberta

melting point Temperature at which a solid becomes a liquid or when a disk of fat assumes a spherical shape; impurities lower the melting point See also **freezing point**

See Part 2: Melting Points, Fats and Oils

membranous stain (membranosis of lemons)

Darkening of the membrane walls between the segments and sometimes the core tissue and inner tissue of the rind; occurs more frequently when fruit is picked in cool, damp weather; lemons held at 40°F are seriously affected, whereas those stored at 32 or 60°F seldom develop the stain

memphis A matured cheese

menadione A synthetic vitamin K
See Part 2: Vitamins

menage A dry, uncooked, unsmoked French sausage (salami) made from medium or coarsely chopped, mildly seasoned pork fermented and stuffed into a pork casing

mendelevium (Md) A synthetic radioactive element of the actinide series; at. no. 101; Group IIIB of Periodic Table; mass number of most stable isotope 256;

electron configuration 2–8–18–32–31–8–2
orbit K L M N O P Q

M endo agar See Part 2: Microbiological Media

menduvira A South American fruit

menhaden An oily and bony shadlike fish; usually not used for food

Atlantic (*Brevoortia tyrannus*)
Gulf [*B. patronus* (largescale)]

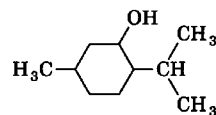
See **scup**

menhaden oil A drying oil obtained by expressing the flesh of the menhaden fish; in hydrogenated form it is used in cooking fats; also in margarine and in animal feeds

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Vitamin A, Fish;

Mentha The genus of a number of aromatic herbs including the mints

menthol



A solid alcohol obtained from oil of peppermint; also occurs naturally, characteristic cool taste; used in cough syrups and cigarettes

Storage: full, tight, container in a cool, dark place

menu A list of food that makes up a meal or a list of meals from which you may select

meolchijeot A pickled anchovy

mercaptan RSH See also **thiol**

mercury (quicksilver; Hg) 1) A liquid metallic element; at. no. 80; at. wt. 200.61; Group IIB of Periodic Table; oxidation states +1, +2;

electron configuration 2–8–18–32–18–2
orbit K L M N O P

All mercury compounds are poisonous! 2) Mercury (all good; dog's mercury; good King Henry; goosefoot; wild spinach): An annual herb whose shoots are used like asparagus See **good King Henry**

mercury-in-glass thermometer A reference thermometer often used to indicate retort temperature

merghez A moist or semidry, uncooked, unsmoked French sausage made from medium chopped, heavily seasoned, beef and pork and fermented and stuffed into sheep casings

merguez veritables A moist or semidry, uncooked, unsmoked French sausage made from medium chopped, heavily seasoned, beef and lamb and fermented and stuffed into sheep casings; product is usually fried

meringue A soft topping used for pies, puddings, and other baked desserts; it is made of well-beaten egg whites plus sugar and vanilla or other flavoring. A hard meringue is often combined with fruit, ice cream, sauces, or syrups

Merino A fine-wool breed of sheep that originated in Spain
Types:

A—skin is wrinkled over entire body

B—skin folds around neck, dock, flanks, and thigh

C (or Delaine Merinos)—most popular type; has practically no wrinkling; has white nostrils, lips, and hooves; rams have horns (polled strain does exist) and ewes are hornless; they will breed in almost any season

See Part 2: Part 2: Sheep Breeds

Merino, China A white fleeced sheep of northeast and northwest China; raised for wool; developed from crossing Merino (northeast), Sinkiang, Rambouillet, and Marino rams (northwest) with Mongolian fat-tailed ewes

merinofort A blue cheese

merisette A French, cherry-flavored, after dinner cordial

merissa A sorghum beer

merl See **marl**

merlot An Italian, red wine; a grape grown in Italy and used to make a red wine

merlot di aprilia A wine produced in the region of Rome

mermen A fish of the skate family

meromyosin See Part 2: Myofibrillar Proteins of Muscle

mersin A citrus liqueur

Mertaste A proprietary flavor enhancer containing a mixture of disodium inosinate and disodium guanylate

mesanarah A hard, dry, low-fat, grating cheese

mescal bean A plant having a toxic principle
See Part 2: Poisonous Plants

mesenteric See **caul**

mesentery The tissue that attaches the intestine to the abdominal wall
See Part 2: Intestine, Cross Section

mesh Coarseness or fineness of screens; indicated by number of openings per linear inch, i.e., 200-mesh, 300-mesh, etc.; mesh screen (24 × 24 mesh) required to contro vinegar flies
See Part 2: Mesh Sizes

meshgiach A Jewish food inspector

mesimarja An aromatic liqueur flavored with arctic brambleberry (*Rubus arcticus*)

mesitra A soft, unsalted cheese made from sheep's milk

meso- A prefix that means middle

mesocarp The intermediate layer or fleshy portion of a fruit lying below the pericarp
See Part 2: Corn Kernel; Orange Structure; Rice Kernel

meso compound Inactive or has no effect on polarized light

mesophilic bacteria Bacteria that can grow at a medium temperature; minimum growth temp., 10–15°C; optimum, 35–40°C; maximum, 40–50°C; almost all food-poisoning bacteria fall in this range

mesost A sweet, Swedish, mysost-type whey cheese made from cow's milk

mesquite A plant having a poisonous principle
See Part 2: Gum Distribution; Poisonous Plants

meta (m) Indicates substitution in a ring in the position next to another substituent

meta- A prefix that means change

metabisulfite (metabisulphite) Sodiumis ($\text{Na}_2\text{S}_2\text{O}_5$)

metabolic body size (metabolic weight) Weight raised to the $\frac{3}{4}$ power; weight^{0.75}

metabolic water Water formed from the oxidation of food

metabolism The biochemical and physicochemical reactions that occur from the time a nutrient enters the body of an organism to the time the waste products are excreted; consists of anabolism (building up) and catabolism (destructing) and liberation of energy. Digestion and absorption of nutrients and their oxidation and degradation are major aspects. These processes yield the energy necessary for maintenance of the organism and are distinctive for each class of nutrients (fats, carbohydrates, proteins)

metabolite 1) A substance produced by metabolism; essential metabolite is a necessary constituent of a metabolic process. 2) An active nutrient factor, such as a vitamin, protein, or enzyme, including numerous combinations of these. Substances that reduce or impair the activity of metabolites are called antimetabolites

metabolizable energy (M.E.) Digestible energy corrected for loss of energy in the urine and gasses

metacarpal bones Forefoot bones located above the phalangeal bones
See Part 2: Bone

metallic An ironlike, copperlike, or oxidative flavor

metaphase A phase of meiosis
Metaphase I—formation of spindle fibers in the first meiotic division
Metaphase II—formation of spindle fibers in the second meiotic division

metaphosphate See Part 2: Phosphate

meta sacco A liqueur flavored with mint

metatarsal bones Hind foot bones located between the phalangeal and tarsal bones

metazoa Multiple-celled parasites

464 meter (m)

meter (m) A measure of length

- 1 m = 1×10^{10} angstrom (Å)
- = 1000 millimeters (mm)
- = 100 centimeters (cm)
- = 39.3700 inches (in.; U.S.)
- = 10 decimeters (dm)
- = 3.280843 feet (ft; Brit.)
- = 3.280833 feet (ft; U.S.)
- = 1.093611 yard (yd; U.S.)
- = 0.54681 fathom
- = 0.198838 rod (rd; U.S.)
- = 0.001 kilometer (km)
- = 0.0006214 mile (statute)
- = 0.0005396 mile (U.S.; nautical)

0.9144 m = 1 yard (yd)

meterbread A long loaf of French bread

meter columns of water A measure of pressure

1 meter column

- = 204.817 pounds per square foot (lb/ft²; psf)
- = 73.5514 millimeters (columns of mercury, Hg)
- = 3.28083 feet (columns of water, max. density at 4°C, 39°F)
- = 2.89572 inches (columns of mercury, Hg)
- = 1.42234 pounds per square inch (lb/in.²; psi)
- = 0.10 kilogram per square centimeter (kg/cm²)
- = 0.09678 atmosphere, standard (760 mm Hg)

metering pump A pump that delivers a precise flow rate; often used in aseptic processing

meter-kilogram (m-kg)

- 1 m-kg = 98,070,000 centimeter-dynes
- = 100,000 centimeter-gram
- = 7.233 pound-feet

meter per minute (m/min) A measure of velocity

- 1 m/min = 3.281 feet per minute (ft/min)
- = 1.667 centimeters per second (cm/s)
- = 0.06 kilometer per hour (km/h)
- = 0.05468 foot per second (ft/s)
- = 0.03728 mile per hour (mph)
- = 0.03240 knots (U.S.)

meter per second (m/s; mps) A measure of velocity

- 1 m/s = 196.8 feet per minute (ft/min)
- = 3.6 kilometers per hour (km/h)
- = 3.28083 feet per second (ft/s; fps)
- = 2.23693 miles per hour (mph)
- = 1.94254 knots (U.S.)
- = 0.6 kilometer per minute (km/min)
- = 0.03728 mile per minute

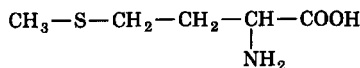
meter per second per second (m/s²) A measure of acceleration

- 1 m/s² = 100 centimeters per second per second (cm/s²)
- = 3.6 kilometers per hour per second (km/h-s)
- = 3.28083 feet per second per second (ft/s²)
- = 2.23693 miles per hour per second (mph-s)

methanol See methyl alcohol

metheglin A sweet, fermented, alcoholic beverage made with honey; often flavored with fruit juice and spices

methionine

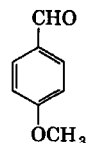


An essential amino acid. Used as a nutrient, dietary supplement, or food additive.

Storage: well-closed, light-resistant container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acids; Wheat Products, Amino Acid Compositions; Wheat Products Composition

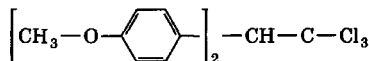
methoxybenzaldehyde



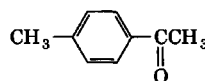
Used as a hawthorn-like flavoring agent for food; sp. gr. 1.118-1.124

Storage: full, tight, glass container in a cool, dark place

methoxychlor (methoxy DDT) A chlorinated, organic insecticide, especially useful in dairy barns; it is less toxic than DDT



4' methyl acetophenone



Used as a floral-fruity flavoring agent in food; sp. gr. 1.000-1.004

Storage: full, tight, glass container

methylal (formal) [CH₂(OCH₃)₂] An aldehyde used as extraction solvent in perfumery

methyl alcohol (methanol; wood alcohol)

(CH₃OH) 1) A commercial product that is about 90% methyl alcohol; poisonous and causes blindness; used as solvent and as denaturant for ethyl alcohol. 2) Clear, colorless, flammable liquid found naturally in many foods; used as a flavoring agent and as a food extraction solvent; distillation range 64.5-64.7°C

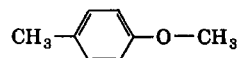
Storage: tight container away from flame

methylaniline (CH₃NH₂) A flammable gas

See Part 2: Refrigerant

β-methyl-α-amino valeric acid See isoleucine

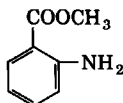
methyl anisole



Used as a pungent flavoring agent for food; sp. gr. 0.966-0.970

Storage: full, tight, glass container in a cool, dark place

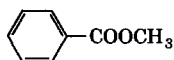
methyl anthranilate



Used as a grapelike flavoring agent for food; sp. gr. 1.160–1.170

Storage: full, tight, glass container in a cool, dark place

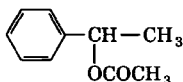
methyl benzoate



Used as a fruitlike flavoring agent for food; sp. gr. 1.082–1.088

Storage: full, tight, glass container in a cool, dark place

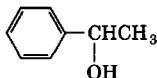
methylbenzyl acetate



Used as a gardenia-like flavoring agent for food; sp. gr. 1.022–1.026

Storage: full, tight, glass container in a cool, dark place

methylbenzyl alcohol



Used as a gardenia-like flavoring agent for food; sp. gr. 1.008–1.014

Storage: full, tight, glass container in a cool, dark place

methyl bromide (CH_3Br) An alkyl halide used as an insecticide; gas fumigant

Used with: all foodstuffs, cereals, dried fruit, fish, legumes, nuts

See Part 2: Fumigants

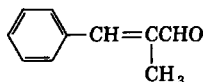
methylcellulose A methyl ether of cellulose; a modified cellulose; aqueous solutions form viscous, colloidal suspensions; used as a food binder, bodying agent, bulking agent, film former, stabilizer, thickener, emulsifier, and grease-proofer for paper; a fiberlike substance sometimes used as a bulk producer in some diet aids

Storage: well-closed container

methyl chloride (CH_3Cl) Flammable gas; liquid when compressed; used as an extraction solvent and refrigerant

See Part 2: Refrigerant

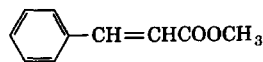
methylcinnamaldehyde



Used as a cinnamon-like flavoring agent for food; sp. gr. 1.034–1.040

Storage: full, tight, glass container in a cool, dark place

methyl cinnamate



Used as a fruitlike flavoring agent for food

Storage: full, tight, glass container in a cool, dark place

methyl cyclopentenolone



Used as a nutlike flavoring agent for food

Storage: tight, glass container

methylene chloride (dichloromethane) (CH_2Cl_2)

A volatile, nonflammable liquid used as a refrigerant and extraction solvent; sp. gr. 1.318–1.324

Storage: tight container

See Part 2: Refrigerant

methyl ester of rosin Usually produced by esterification of rosin with methanol and partial hydrogenation; used as a masticatory substance in chewing gum

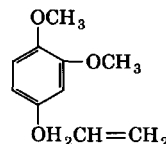
Storage: tight container

methyl ethylcellulose Methyl and ethyl groups attached by ether linkages to the anhydroglucose; used as a food emulsifier, foaming agent, and stabilizer

Storage: well-closed container

methyl ethyl ketone (MEK) A fast evaporating solvent for phenolic or vinyl resins

methyl eugenol



Used as a clovelike flavoring agent for food; sp. gr. 1.032–1.036

Storage: full, tight, glass container in a cool, dark place

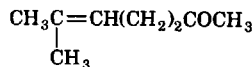
methyl formate (HCOOCH_3) Flammable and explosive liquid used as fumigant and larvicide

Storage: keep in a tight container and observe label requirements

See Part 2: Refrigerant

methyl group ($-\text{CH}_3$) The simplest alkyl group; occurs in aliphatic compounds; formed by dropping one H atom from methane

methyl heptenone

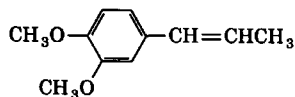


Used as a citruslike flavoring agent for food; sp. gr. 0.846–0.852

Storage: full, tight, glass container in a cool, dark place

466 methyl isoeugenol

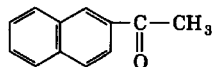
methyl isoeugenol



Used as a clovelike flavoring agent for food; sp. gr. 1.046–1.054

Storage: full, tight, glass container in a cool, dark place

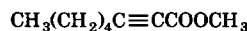
methyl naphthyl ketone



Used as an orange-blossom-like flavoring agent for food

Storage: nonmetal container in a cool, dark place

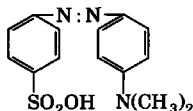
methyl 2-octynoate



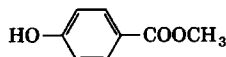
Used as a violet-like flavoring agent for food; sp. gr. 0.918–0.925

Storage: full, tight, glass container in a cool, dark place

methyl orange An indicator used when titrating weak bases; pH range 3–4.5; color in acid is orange, pink in neutral, and yellow in alkaline solutions. Mix 0.1 g of the Na salt per 100-ml water



methylparaben



An antimicrobial food additive used in beverages, cake-type pastries, relishes, and salad dressings

Storage: well-closed container

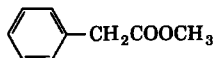
4 methyl-2-pentanone (methyl isobutyl ketone)



Used as a ketonelike flavoring agent in food; sp. gr. 0.796–0.800

Storage: tight container

methyl phenylacetate



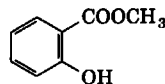
Used as a honeylike flavoring agent in food; sp. gr. 1.060–1.068

Storage: full, tight, glass container in a cool, dark place

methyl polysilicone An antifoaming agent used in food; 10 parts/million

methyl red An indicator used when titrating strong acids, strong bases, or weak bases; pH range 4–6; color in acid is red; in neutral is yellowish red; in alkaline solutions, yellow. Mix 0.1 g in 60 ml of alcohol and 40 ml water

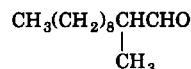
methyl salicylate (gaultheria oil; wintergreen oil)



Produced synthetically or steam distilled from *Gaultheria procumbens* or *Betula lenta*. Used as a wintergreen-like flavoring agent in food

Storage: full, tight, container in a cool, dark place

2-methylundecanal

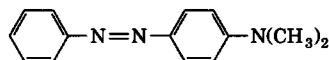


Used as a fatlike flavoring agent in food; sp. gr. 0.822–0.830

Storage: full, tight, container in a cool, dark place

methyl violet An indicator that is green when the pH is less than 2, blue between pH 2 and 3, and violet for pH above 3; mix 0.1 g per 100-ml water

methyl yellow (p-dimethylaminoazobenzene)



A pH indicator that has a pH range of 2.9–4.0; red in the acid direction and yellow in the base direction

metmyoglobin Oxidized form of myoglobin, the brown-colored pigment of stale meat

See Part 2: Meat Pigment; Nitrate, Meat Curing

metogo A nonalcoholic, sour drink made from maize, millet, and sorghum

metric A system of measure based on meter, kilogram, second, ampere, kelvin, and mole

metsastaja A moist, cooked, smoked Finnish sausage made from finely chopped, heavily seasoned (garlic) beef and pork and stuffed into 75-mm artificial casings

mett A semidry, pork sausage

metton A mysost-type cheese made from cow's milk

met(t)worst, boeren A dry, uncooked, smoked or unsmoked Dutch sausage made from coarsely chopped, mildly seasoned pork that is fermented and stuffed into a pork casing

mettwurst ("smeawurst"; teawurst) 1) A soft (spreading consistency), beef (60–70%) and pork sausage that is processed at low temperature and tied in 2–3-in. lengths; sometimes contains liver; often sold in fresh or uncooked, smoked form. A moist, uncooked, smoked or unsmoked American sausage made from medium to coarsely chopped, mildly seasoned (pepper, coriander, ginger, allspice, and often paprika) beef or beef and pork (often made with $\frac{2}{3}$ cured beef and $\frac{1}{3}$ cured pork) and stuffed into a large diameter link or ring, beef, pork, or artificial casing;

by-products and extenders usually not permitted, but beef hearts can be used; max. 3% added water and max. 50% fat. 2) A dry, uncooked, smoked Australian sausage made from coarsely chopped, medium seasoned, beef that is stuffed into artificial casings. 3) A moist or semidry, uncooked, smoked, Austrian sausage made from mildly seasoned (nitrite) beef and pork and stuffed into 30-mm artificial casings. 4) An uncooked, smoked sausage made with beef and pork seasoned with allspice and mustard. 5) A semidry, uncooked, smoked French sausage made from medium chopped, mildly seasoned, beef and pork, fermented and stuffed into beef or pork casings; spreadable

See Part 2: Sausage Identification; Sausage, Types

mettwurst, gekochte A moist, cooked, smoked western German sausage made from coarsely chopped beef and pork sausage and stuffed into an artificial casing

mettwurst, Irish A semidry, uncooked, smoked sausage made from finely chopped, medium seasoned, pork that is fermented and stuffed into an artificial casing

mettwurst, Norwegian A dry, uncooked, smoked sausage made from medium chopped, heavily seasoned, beef and pork sausage that is fermented and stuffed into an artificial casing

mettwurst, Swiss A moist or semidry, uncooked, smoked sausage made from fine, medium, or coarsely chopped, medium seasoned beef and pork and stuffed into an artificial casing

mettwurst, westfälische A dry, uncooked, unsmoked western German sausage made from coarsely chopped, medium seasoned, beef and pork that is fermented and stuffed into a pork casing

metz A semidry (air dried 5 days) sausage made from cured, lean beef and pork and cured bacon; finely chopped and cool smoked

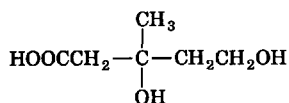
metzo (metzos; metzot) An unleavened, flat bread made from flour and water

metz sausage A medium to coarsely chopped, uncooked, smoked or unsmoked, American sausage; fermented and/or dry or semidry; available in links, rings, or large diameter casings

meunière, à la Dipped in flour, heated in butter, and served with brown butter, parsley, and lemon

meursault A dry, white wine

mevalonic acid



Acetate-replacing factor for growth of several microorganisms; a precursor of cholesterol, carotenoids, and ubiquinones

Mexican

Food habits:

Carbohydrates—potato, rice

Vegetables—beans, peas, tomato

Traditional food—chili, chili con carne, tamales, tortillas

Mexican altura A coffee

Types:

Coatepec—premier mild coffee

Oaxacas—sharper taste

Plumas—sharper taste

Mexican altura, coatepec A fairly mild coffee with a fresh taste, delicate aroma, and a slight nutty flavor

Mexican black bean A bean with yellow pods and black seeds

Mexican cress See nasturtium

Mexican platyfish (*Platyopocilus maculatus*) A food fish

Mexican sage See oregano

Mexican spinach See orache

Mexican squash A summer variety of squash

mezr An alcoholic beer

mezzoradu Yogurt

mf See microfarad

Mg Symbol for the element magnesium

mg See milligram

mgba A clear, mildly alcoholic, sorghum beer

M green yeast and mold broth See Part 2: Microbiological Media

M.H.U. See pepper (capsicum)

mian-baw A bread

miang A sour snack made from fermented tea leaves

micelle A tight bundle of linear starch molecules and linear segments of branched molecules

mi-chevre A French cheese made from goat's and cow's milk, with savory leaves pressed into the surface

michili See Chinese cabbage

micro (μ) 1) Prefix for quantities one million times smaller than the base unit; prefix indicating 10^{-6} . 2) Prefix meaning "very small," e.g., microorganism

microaerophile An organism that is inhibited by normal oxygen atmospheric pressure but can survive at reduced pressure; must have only limited amounts of oxygen

microampere (μA) One millionth of an ampere

microassay culture agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

Microbacterium A gram-positive, non-spore-forming rod that resists pasteurization; survives 10 minutes at 80°C

microbe A microorganism, e.g., bacteria, protozoa, and fungi

microbiology The study of bacteria and other microorganisms (yeasts, molds, etc.)

See Part 2: Microbiological Standards, Dairy

Micrococcus A sphere-shaped microorganism that may survive pasteurization

See Part 2: Spoilage, Protein Foods

468 micro-cool value

micro-cool value A value that containers pass through when they exit from the pressure shell in a continuous agitating retort and are sprayed with water for cooling

microcrystalline cellulose (purified alpha cellulose) A nonfibrous, cellulose derivative hydrocolloid used with other stabilizing ingredients in food systems

microcrystalline wax A substance added to paraffin to reduce the brittleness

microfarad (μF ; mf) A measure of electrical capacity; one-millionth of a farad

$$1 \mu\text{F} = 9 \times 10^5 \text{ statfarads}$$

$$= 1 \times 10^{-6} \text{ farads}$$

$$= 1 \times 10^{-15} \text{ abfarads}$$

microfiche (fiche) Microfilm the size of a postcard that contains up to 98 pages (8.5×11 in.) reduced 22 times

microflora The microbial life in a given region

microgram (μg ; mcg; γ) A measure of mass; one-millionth of a gram; sometimes called a gamma (γ)

$$1 \mu\text{g} = 1,000 \text{ nanogram (ng)}$$

$$= 0.001 \text{ milligram (mg)}$$

$$= 0.000,001 \text{ gram (g)} = 1/1,000,000 \text{ gram (g)}$$

$$= 3.53 \times 10^{-8} \text{ ounce (oz; avdp)}$$

microhm ($\mu\Omega$)

$$1 \mu\Omega = 1,000 \text{ abohms}$$

$$= 1 \times 10^{-6} \text{ ohms (Ω)}$$

$$= 1 \times 10^{-12} \text{ megohms (M}\Omega\text{)}$$

microingredient A ingredient of a mixture measured in milligrams, micrograms, or parts per million

micro inoculum broth See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

microliter (μl ; λ) A measure of volume

$$1 \mu\text{l} = 1 \text{ cubic millimeter (mm}^3\text{)}$$

$$= 0.27 \times 10^{-3} \text{ dram}$$

$$= 6.1 \times 10^{-5} \text{ cubic inches (in.}^3\text{)}$$

$$= 1 \times 10^{-6} \text{ liter (l)}$$

micrometer (μm) 1) One-millionth of a meter. 2) A caliper for making precise measurements See **micron**

micromicron ($\mu\mu$) A measure of length; more commonly expressed as 10^{-12} m

$$1 \mu\mu = 0.001 \text{ nanometer (nm)}$$

$$= 0.000,000,001 \text{ millimeter (mm)}$$

$$= 1 \times 10^{-12} \text{ meter (m)}$$

micron A measure of length (μm , current designation; μ , old designation)

$$1 \mu\text{m} = 1 \times 10^4 \text{ angstroms (\AA)}$$

$$= 1,000 \text{ nanometers (nm)}$$

$$= 0.039370 \text{ mil (thickness)}$$

$$= 0.001 \text{ millimeter (mm)}$$

$$= 1 \times 10^{-4} \text{ centimeter (cm)}$$

$$= 3.937 \times 10^{-5} \text{ inch (in.)}$$

$$= 10^{-6} \text{ meter (m)}$$

micronutrient See **mineral**; **trace element**

microorganism A variety of large groups consisting of living single cells or cell clusters; any organism small enough to be indistinguishable with the unaided eye; organisms that can only be seen with a microscope; a minute, usually microscopic, living organism. A living organism consisting of a single cell, which reproduces asexually; while some types are infective, many others are not; some (such as nitrogen-fixing bacteria) are beneficial. Various forms include bacteria, algae, yeasts, molds, etc.

See Part 2: Bacteria on Chickens at Various Holding Temperatures; Culture Media; Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Microbial Toxins; Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant; Microorganism Reactions on Differential Tube Media; Most Probable Number; Most Probable Number, Bacterial; Rot Spoilage; Spices, Microbial Content; Water Activity, Organisms and Food

microscope An optical instrument used to view small objects by means of glass or magnetic lens systems

microsmatic A poor sense of smell

microtome An instrument for cutting thin sections for microscopic observations

microvolt 1×10^{-6} volt; one-millionth volt

microwave (high frequency) High-frequency electromagnetic energy (300–30,000 megahertz, MHz); frequencies assigned for cooking are 915 and 2450 MHz. Microwaves are produced by an electron tube called a magnetron; the microwaves cause the water molecules in food to vibrate, which produces heat that cooks the food; there is no residual radiation remaining after microwave production has stopped

Cooking containers:

Ceramic

Glass

Paper

Plastic

See Part 2: Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Cooking, Fruit; Microwave Processing Time: Waves, Energy-Producing

MID Minimum identifiable difference

mid-bloom $\frac{1}{10}$ – $\frac{2}{3}$ of plants in bloom

middagsgrill A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork that is not stuffed into a casing

middagskorvett A moist, cooked, smoked Swedish sausage made from finely chopped, medium seasoned (potato starch, skimmed milk powder) beef and pork sausage and stuffed into a peelable, artificial casing

Composition: 11% fat

middelbaar An edam-type cheese

Middlebrook See Part 2: Microorganism, Media

middles Natural casings used in the meat trade; made from the middle part of the large intestine of pork
See also **narrow casings**; **wide-end middle**; **fat-end middle**

See Part 2: Casings, Animal; Casings, Hog and Beef; Casings, Terms

Middle White A white breed of British swine that is stocky and thicker and shorter than the Large White; has a dished face and turned-up snout

middling The inner portion of wheat kernel that is difficult to granulate See **farina**

See Part 2: Cereal By-Products Composition

midori A green, melon-flavored, low alcoholic liqueur

midriff See **diaphragm**

midzhur A white, brined cheese made from sheep's milk

mie See **mee**

mie-chiu A rice wine

mignonette A coarsely ground, white or black pepper
See Part 2: Essential Oils

mignot 1) A soft to semisoft, strongly flavored, French cheese made from cow's milk with rennet added and ripened by surface bacteria.

Types:

Passé—ripened cheese

White—fresh cheese

2) A dry biscuit

mignouet A strongly flavored, cow's milk cheese with a red-brown rind

mihalic A ewe's milk cheese

mikaeilian A moist or dry, cooked Iranian sausage made from finely chopped beef, lamb, and goat and stuffed into beef, sheep, or artificial casings

mil A unit of linear measure usually used in reference to thickness

1 mil = 0.00254 centimeter (cm)

= 0.001 inch (in.)

= 8.333×10^{-5} feet (ft)

= 2.778×10^{-5} yards (yd)

= 2.54×10^{-8} kilometer (km)

Milanese Food prepared in the style of Milan

Milano A salami made from beef or beef and pork and seasoned with garlic

Milano salami A dry, uncooked, unsmoked Australian sausage made from coarsely chopped, heavily seasoned (garlic), beef, stuffed into artificial casings, and fermented See **Milan salami**

Milan salami (Milano salami) A finely cut, dry (moisture-protein ratio 1.9 : 1), Italian sausage made from beef, pork, and pork fat and spiced with garlic; has a distinctive cording See **Milano salami**

Milan-type salami A dry, uncooked, unsmoked Greek sausage made from finely chopped, medium seasoned beef and pork, fermented and stuffed into pork or artificial casings

milchig A dairy product

mild cheese See **cured cheese**

mildew (*Erysiphe graminis*) See **alternaria rot**

mildew, downy A fungus that affects the leaves (greenish spots on upper surface; grayish growth underside), fruit (soft and light brown with white growth or green-brown and wrinkled), and shoots (thickened and misshapened) of grapes

Control: sunny area; remove infected parts; select appropriate varieties; fungicide spray

mildew, powdery [*Podosphaera oxycanthae*; *Sphaerotheca pannosa*; *P. leucotricha* (pears)]

1) A fungus that causes white, powdery growth on grapes; berries may appear rusty and scaly.

Control: resistant varieties; sunny location; fungicide spray

2) A fungus that may infect the leaves of apple and peach trees and raspberry, blackberry, and strawberry plants; leaves are covered with a white coating and are curled

Prevention: sun; good air; drainage; resistant varieties; fungicide spray

mile (mi) A measure of distance

British:

1 mi = 1.60934 kilometers (km)

International nautical mile:

1 mile = 6075.1155 feet (ft)

U.S. statute:

1 mi = 1.609×10^5 centimeters (cm)

= 63,360 inches (in.)

= 5,280 feet (ft)

= 1,760 yards (yd)

= 1,609.35 meters (m)

= 320 rods (rd)

= 80 chains (Gunther's)

= 8 furlongs

= 1.60935 kilometers (km)

= 0.86836 U.S. nautical mile

= 1.69×10^{-13} light year

U.S. nautical:

1 mi = 72,962.5 inches (in.)

= 6,080.20 feet (ft)

= 2,026.73 yards (yd)

= 1,853.25 meters (m)

= 368.497 rods (rd)

= 1.85325 kilometers (km)

= 1.15155 statute miles

mile per hour (mi/h; mph) A measure of velocity

1 mi/h = 88 feet per minute (ft/min)

= 44.7041 centimeters per second (cm/s)

= 26.82 meters per minute (m/min)

= 1.60935 kilometers per hour (km/h)

= 1.46667 feet per second (ft/s)

= 0.86839 knot U.S.

= 0.44704 meter per second (m/s)

= 0.16665 mile per minute (mi/min)

mile per hour per second (mi/h-s) A measure of acceleration

1 mi/h-s = 44.7 centimeters per second per second (cm/s²)

= 1.6093 kilometers per hour per second (km/h-s)

= 1.46667 feet per second per second (ft/s²)

= 0.44704 meter per second per second (m/s²)

470 mile per minute (mi/min)

mile per minute (mi/min) A measure of velocity

1 mi/min = 2,682 centimeters per second (cm/s)
 = 88 feet per second (ft/s)
 = 60 miles per hour (mi/h; mph)
 = 1.6093 kilometers per minute
 (km/min)
 = 0.8684 knots per minute

milfoil A woodland plant that has leaves that are used in salads

milk A class name for milk, concentrated milk, or dried milk. A nutritive liquid secreted by the mammary gland. Fortified milk has vitamins and sometimes minerals added. Cow's milk has min. 3.25% milk fat and 8.25% nonfat milk solids; fat is milk fat or butterfat; nonfat solids include protein, milk sugar, and minerals. Grade A (if it meets FDA or state standards under the Pasteurized Milk Ordinance) designates wholesomeness rather than quality. Milk is produced by healthy cows and processed, pasteurized, and handled under strict sanitary control

46½ quarts (qt) = 100 pounds (lb)

1 gallon (gal) = 8.6 lb

1 gal, cream = 8.4 lb

1 cup = 245 grams [8.5 ounces (oz)]

1 tbsp = ½ oz

1 tsp = ⅙ oz

1 qt, milk = 3½ oz, dried, skimmed milk + 1½ oz, butter

= 4½ oz, dried, whole milk

= 17 oz, evaporated milk

2 cups = 1 lb

1 cup, milk = ½ cup evaporated milk + ½ cup water

= 1 cup fluid, nonfat dry or skimmed milk + 2½ tsp butter or margarine

1 cup, milk = 3 tbsp sifted, nonfat, dry milk

+ (1 cup - 1 tbsp water)

= ⅓ cup instant, nonfat, dry milk

(1 cup - 1 tbsp water)

sp. gr.: whole milk 1.032; skimmed milk 1.035; milk fat 0.9

General composition	Average (%)	Range (%)
Water	87	—
Carbohydrates	5	4.3–5.3
Fat	4	3.2–6.0
Protein	3.3	2.5–4.0
Minerals	0.7	0.7–0.8
Nonfat solids	—	8.0–9.5
Total solids	—	11.8–15.0

Milk	Cholesterol (mg/cup)	Calcium (mg)	Sodium (mg)
Whole	34	288	122–130
2% fat	22		
1% fat	14		
Skimmed		296	

Pasteurization

Min. temp (°F)	Min. time (min)	Remarks
145	30	—
161	0.25	Promptly cooled to 40°F

Homogenized milk is mechanically treated to reduce size of fat globules and thus stabilize the emulsion so that cream does not rise to top

Vitamin D milk contains 400 USP (or IU) units per quart

Stain removal from cloth—scrape excess, soak in cold water with enzyme product, and wash in hot suds; use cleaning fluid if necessary

Storage: store at 40°F; freezing point 0.530°C (a rise indicates adulteration); keep out of sunlight; keep tightly closed; use within 3–5 days. **See homogenized milk; lactic acid**

See Part 2: Animal Foods, Composition; Calcium, Daily Recommendations; Calcium Equivalence for Milk; Calories, Daily Recommendations; Canned Spoilage Related to pH; Cholesterol Control; Dairy Products, Composition; Dairy Terms; Fluid and Fermented Milks, Composition; Food, Composition; Food Guide; Glutamate; Microbiological Media; Microbiological Standards, Dairy; Milk, Amino Acids; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Products; Milk, Dry Products; Milk, Fatty Acids, Seasonal; Milk, Mammals, Composition; Milk, Physical Properties; Milk, Species; Milk, Total Solids; Minerals, Food; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Moisture in Biological Materials, Nicotinic Acid, Food; Pantothenic Acid Content; pH Values of Biological Materials; Portion Size; Protein Factors; Riboflavin, Daily Recommendations; Riboflavin, Food; Saturated Fatty Acids; Spoilage, Carbohydrate Foods; Spoilage, Fat in Foods; Spoilage, Protein Foods; Storage Times; Thermophiles; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Daily Recommendations; Vitamin A, Food; Vitamin A, Milk and Milk Products

Composition

Milk	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)	pH
3.5% fat	87	3.3–3.5	3.25–3.6	4.9	0	0.7–0.8	6.3–6.9
3.3% fat	88	3.3	3.34	4.7	0	0.72	
2% fat	87–89	3.4–4.2	2	4.8–6	0	0.7–0.8	
Dehydrated	4	25.4	26.6		0	5.4	
Skimmed	90–91	3–3.6	0.1–0.2	4.8–5.1	0	0.7–0.8	
Skimmed, dehydrated	6	33.7	0.8		0	7.9	
Goat	87	3.3	4.8	4.8	0	0.7	
Human	87.5	1.4	3.7	7.2	0	0.2	

milk allergy Milk protein that is normally broken down in digestion is absorbed directly into the bloodstream; may result in sneezing, wheezing, abdominal pain, diarrhea, rashes, dizziness, or headache

milk assessments Deductions from dairy farmers' prices to finance special federal government supply-reduction programs *See* **milk production termination program**

milk bread A white bread that contains at least one-third of its weight as whole milk (or equivalent) for the liquid portion instead of water

milk chocolate (candy bar chocolate) A mixture of chocolate and condensed milk or dry milk powder; contains not less than 12% milk solids

1 ounce = 6 mg caffeine

See **chocolate drink; chocolate-flavored drink; chocolate-flavored milk; chocolate milk**

milk, condensed *See* **condensed milk**

milk, cream-line Nonhomogenized milk

milk, cultured Milk or milk products to which selected bacterial cultures are added to produce characteristic flavor and texture

milk custard *See* Part 2: Dairy Products, Composition I

milk, dialyzed Milk that has been separated by membrane to remove salts and sodium

milk diversion program A program whereby milk producers receive direct payments for agreeing to reduce production

milk drink *See* Part 2: Cultured Dairy Products, Composition

milk, dry whole *See* **dried, whole milk**

milker A cow sold for dairy use

milk, evaporated *See* **evaporated milk**

milk fat (butterfat) Fat obtained from milk; cows' milk ranges from 3.3 to 5.4%

Fatty Acid		Physical properties
Carbon atoms	% of total	
Saturated		
4	3	Iodine No. 25-45
6	2	
8	1	Saponification value 210-
10	3	240
12	3	Melting point 28-36°C
14	9	Specific gravity 0.930-
16	24	0.940 at 15.5°C
18	13	Refractive index 1.460 at
20	tr	25°C
Odd no.	2	Titer 33-38°C
Branched chain		
	1	
Monounsaturated		
10	tr	
12	tr	
14	1	
16	2	
18	30	
Polyunsaturated		
18-2	2	
Others	2	

Milk fat tests variants:

Breed—Jersey and Guernsey are usually higher

Stage of lactation—increases with lactation

Season—higher in fall and winter

When drawn—first milk test lower than stripping

Interval between milking—longer intervals give lower test values

Number of lactations—after several lactations, milk fat decreases

Feed has little effect

See **butterfat**

See Part 2: Butter and Butter Products, Composition

milk fever (parturient paresis) A condition in cattle that causes loss of consciousness, head resting on right flank; usually occurs after calving; treatment involves a calcium preparation

milk, filled *See* **filled milk**

milk fish (*Chanos spp.*) A food fish

milk, goat's Goat's milk is usually pure white, has the same keeping quality as cow's milk, and can be used in the same way; has small fat globules that make it easy to digest; higher in fat and stronger in flavor than cow's milk

Composition: moisture 87-87.5%; protein 3.5-3.6%; fat 4.1-4.3%; carbohydrate 4.4-4.6%; fiber 0%; ash 0.8-0.9%

milk, grade A Must comply with U.S. Public Health Service's recommended "Grade A Pasteurized Milk Ordinance"

Milk must come from healthy cows

Produced and processed under sanitary conditions

Pasteurized to kill harmful bacteria

milk, human Human milk is one-third sweeter, has less than one-half the casein, and more fat than cow's milk

Composition: moisture 87-88%; protein 1%; fat 4.3-4.4%; carbohydrate 6.8-6.9%; fiber 0%; ash 0.2%

milk, ice *See* **ice milk**

milk, imitation Made from lauric acid oils or a blend of hydrogenated vegetable oils

Composition: moisture 88.2%; protein 1.7%; fat 3.4%; carbohydrate 6.2%; ash 0.5%

milk, Indian buffalo

Composition: moisture 83-84%; protein 3.7-3.9%; fat 6.8-6.9%; carbohydrate 5.1-5.3%; fiber 0%; ash 0.7-0.8%

Milking Shorthorn A dual-purpose type of cattle
See Part 2: Beef and Dual-Purpose Cattle

milk, lowfat Milk containing between 0.5 and 2% milk fat; fortification with vitamin A (at least 2,000 IU per quart) and addition of vitamin D (400 IU per quart) is optional; can be made by mixing equal parts of whole milk and skimmed milk or reconstituted, instant, nonfat, dry milk; 2% fat; nonfat milk solids added

1 cup = 125 calories

milk marketing orders Establishes minimum prices that buyers must pay for fluid milk

472 milk, nonfat

milk, nonfat Skimmed milk with no more than 0.1% fat

milk, nonfat dry milk solids See **nonfat dry milk solids**

milk of magnesia Antacid hydrate of magnesium oxide; mild laxative

milk only record (MOR) Dairy Herd Improvement Association supervisory records of monthly milk weights

milk powder A powder prepared by spray-drying whole milk

3½ cups = 1 pound

1 pound = 3½ quarts, fresh milk

1 cup = 4¾ oz

1 tbsp = ½ oz

1 tsp = ⅙ oz

See Part 2: Microbiological Standards, Dairy; Riboflavin, Food

milk production termination program (whole-herd buyout) A program where dairy farmers are paid to quit producing milk for a period of 5 years

milk pudding See Part 2: Dairy Products, Composition II

milk, raw Milk as it comes from the cow; has not been pasteurized or processed

milk serum See **whey**

milkshake A whipped mixture of milk, ice cream, flavoring, and sometimes eggs

See Part 2: Calcium Equivalence for Milk; Dairy Products, Composition II

milk, sheep's

Composition: moisture 80–81%; protein 5.8–6.0%; fat 7%; carbohydrate 5.3–5.4%; fiber 0%; ash 0.9–1.0%

milk, skimmed

1 cup = 85 calories

See **skimmed milk**

milk solids nonfat The content of carbohydrates, proteins, and minerals in milk

See Part 2: Cultured Dairy Products, Composition

milk soup Milk combined with vegetables, cereal, or fish

milk, sour Milk curdled by the formation of lactic acid produced by the normal growth of lactic acid bacteria; milk soured in one of the following ways:

Naturally by lactic acid bacteria

Inoculated with lactic acid bacteria

Addition of vinegar

Addition of lemon juice

1 cup, sour milk

= 1 cup, sweet milk + 1 tbsp lemon juice

= 1 cup, sweet milk + 1 tbsp vinegar

milk stage A period after bloom during which seeds begin to form

milk stone Deposits of calcium and magnesium phosphates, proteins, and other components precipitated when milk is heated above 140°F

milk sugar See **lactose**

milk toast Toast soaked in a mixture of milk, butter, salt, sugar, and spices

milk, vitamin A added The vitamin A content has been increased by at least 2,000 IU per quart

milk, vitamin D added The vitamin D content has been increased by at least 400 IU per quart

milk, warm 105–115°F

milkweed (sow thistle; *Asclepias* spp.) A perennial weed having a toxic principle; the young leaves may be used in salads or cooked like spinach; roots used like salsify

See Part 2: Poisonous Plants

milk, whole

1 cup = 150 calories

mill by-product A secondary feed produced in milling

mill dust Fine, undetermined feed particles produced in processing and handling feed

mille feuilles Literally, a thousand leaves; a term used in relation to paper-thin pastries

millesime Date of vintage

millet An annual, grained (looks similar to mustard seed) plant often used for grazing and hay; a tropical, small-grained cereal that is very drought-resistant and used for food; originated in Mediterranean and Middle East areas. Approx. nutrient used for 2 tons of hay: 53 lb N, 14 lb P₂O₅, 86 lb K₂O

Tropical types:

Bulrush millet (bajra; cattail millet; candle millet; dukn; penicillaria; pearl millet; *Pennisetum americanum*; *P. typhoideum*)—pasture, silage, human food; height 1.25–3 m; head 20–40 cm, 2.5 cm in diameter; seed 3–4 mm, 2.25 mm wide

Finger millet (African millet; birdsfoot; coracana millet; ragi; *Eleusine coracana*)—human food; stores well; height ½–1 m

Pearl millet (cattail; *Pennisetum glaucum*)—grown in southern states

Sorghum (*Sorghum vulgare*)—green millet, kaffir corn, guinea corn, giant millet: white grain (human food and livestock feed); red grain (beer); sweet (stems are crushed for syrup)

Temperate types:

Browntop millet (*Panicum ramosum*)—pasture and hay

Common millet (hay millet; Hershey millet; hog millet; Indian broom-corn; proso; *Panicum miliaceum*)—food for man and livestock; 100 days average crop growth period; 15.0 MJ kg⁻¹ edible energy value; contains carbohydrates, 10% protein, and 4% fat

Foxtail millet (Italian millet; *Setaria italica*)—human food; hay; silage; beer

Japanese millet (barnyard; billion-dollar grass; *Echinochloa frumentacea*)—food and forage

Koda millet (ditch; *Paspalum scrobiculatum*)—used for baking bread

Little millet (*Panicum miliare*)—like common millet except smaller and will produce a moderate yield on poor soils and in dry or wet weather

Composition (whole grain): moisture 12%; protein 10–12% (finger millet, 5–7% protein; newer varieties, 8–20% protein); fat 2–5%; carbohydrate 73%; fiber 2–7%; ash 2–3.5%; seed = 45–50 lb/bu. Lysine is the first limiting amino acid and threonine is the second.

Food Storage: tightly closed container in a cool place or freeze for longer storage

See Part 2: Cereal Composition; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Seed, Germination; Tocopherols

millet beer A general term for clear, mildly alcoholic beer made from millet

millet, cracked Size between whole millet and millet meal

milli- (m) A prefix for quantities 1000 times smaller than the base unit; indicating 10^{-3}

milliampere (mA) 10^{-3} ampere; one-thousandth of an ampere

millier (metric ton; tonne)

- 1 millier = 1,000,000 grams (g)
- = 2,204.6 pounds (lb; avdp)
- = 10^3 kilograms (kg)
- = 1 cubic meter (m^3)

milligram (mg) A measure of mass

- 1 mg = 0.015432356 grain
- = 0.005 carat (metric)
- = 0.001 gram (10^{-3} g)
- = 0.000,771,618 scruples (apothecary)
- = 0.000,643,014,8 pennyweight (dwt)
- = 0.000,564,383,3 dram (avdp)
- = 0.000,257,205,9 dram (troy; apothecary)
- = 3.527396×10^{-5} ounce (oz; avdp)
- = 3.215074×10^{-5} ounce (oz; troy; apothecary)
- = 2.67923×10^{-6} pound (lb; troy; apothecary)
- = 2.20462×10^{-6} pound (lb; avdp)
- = 1×10^{-6} kilogram (kg)

milligram per liter (mg/l; ppm)

- 1 mg/l = 8.345 pounds per million gallon
- = 1 part per million
- 100 mg/l = 0.01%
- 1,000 mg/l = 0.1%
- 10,000 mg/l = 1%

millihenry (mH)

- 1 mH = 1,000 henries

milliliter (ml) A measure of volume

- 1 ml = 16.894 minims (Brit.)
- = 16.231 minims (U.S.)
- = 1.000027 cubic centimeters (cm^3 ; cc)
- = 0.2705 dram (U.S. apothecary; U.S. fluid)
- = 0.061024 cubic inch ($in.^3$)
- = 0.03520 ounce (oz; Brit. fluid)
- = 0.03382 ounce (oz; U.S. liquid)
- = 0.0084538 gill (U.S.)
- = 0.00211 pint (pt; U.S. liquid)
- = 0.001 liter (l)
- = 2.6418×10^{-4} gallon (gal; U.S.)
- = 2.199×10^{-4} gallon (gal; Brit.)
- = 3.5316×10^{-5} cubic feet (ft^3)
- = 8.387×10^{-6} barrel (U.S.)

29.6 ml = 1 fluid ounce

See Part 2: Volume

millimeter (mm) A measure of length

- 1 mm = 1,000 microns (μm)
- = 39.37 mils
- = 0.1 centimeter (cm)
- = 0.0393701 inch (in.; Brit.)
- = 0.0393700 inch (U.S.; 3.9×10^{-2} in.)
- = 0.003281 feet (ft)
- = 0.001094 yards (yd)
- = 0.001 meter (m)
- = 1×10^{-6} kilometer (km)
- = 6.212×10^{-7} mile

millimeter columns of mercury (Hg 13.59593 sp. gr.) A measure of pressure

1 millimeter column

- = 2.78468 pounds per square foot (lb/ft^2)
- = 0.04461 foot (columns of water, max. density at $4^\circ C$, $39^\circ F$)
- = 0.03937 inch (columns of mercury, Hg)
- = 0.01934 pound per square inch ($lb/in.^2$; psi)
- = 0.01360 meter (columns of water, max. density at $4^\circ C$, $39^\circ F$)
- = 0.001360 kilogram per square centimeter (kg/cm^2)
- = 0.001316 atmosphere, standard (760 mm Hg)

millimicrogram (m γ ; $\mu\mu g$) A unit of weight; more commonly expressed as 10^{-9} g

- 1 m γ = 0.000001 milligram (mg)
- = 10^{-3} microgram (μg)
- = 3.53×10^{-11} ounce (oz; avdp)

millimicron (nanometer; micromillimeter) A measure of length (nm, current designation; $m\mu$, old designation)

- 1 nm = 10 angstroms (\AA)
- = 0.001 micron (μm)
- = 0.000001 millimeter (mm)
- = 1×10^{-7} centimeter (cm)
- = 3.9×10^{-8} inch (in.)
- = 1×10^{-9} meter (m)

milling Separation of the endosperm of a grain from the germ and bran; accomplished by cracking or partial crushing, alternated with sifting and sorting

million gallons per day A measure of flow rate

- 1 million gallon/day
- = 694.4 gallons per minute (gal/min)
- = 1.54723 cubic feet per second (ft^3/s)

millipede A garden pest

Millon test A test for tyrosine or proteins containing tyrosine; a red color is produced when protein is heated with mercury dissolved in nitric acid (Millon reagent). Protein (no tyrosine), negative test; gelatin, faint; carbolic and salicylic acid (phenol group), positive test

See Part 2: Protein and Amino Acid, Color Reactions

mill run Ungraded and usually uninspected material as it comes from the mill

milo A type of grain See also sorghum

See Part 2: Poisonous Plants

milo disease See Sorghum Diseases

milt (melt; soft roe) 1) Roe of male fish. 2) Animal spleen

mimae See Part 2: Intestinal Microorganisms in Triple-Sugar Agar

mima-herellea See Part 2: Microorganism, Media

mimolette An orange-colored (annatto), hard gouda-type, French cheese

mimosa salad A salad made from egg yolk, endive, lettuce, spinach, and vinaigrette

minas A semisoft, mildly acidic, smooth cheese made from cow's milk; eaten fresh or partly matured

mince To finely cut or cut into fine pieces; to grind; to chop

474 minced ham

minced ham 1) A sausage made from the following curried products: 50% lean beef, 25% lean pork, and 25% pork fat, which is finely chopped, seasoned, cooked, and smoked. 2) A moist, cooked, smoked or unsmoked, American sausage made from medium chopped, mildly seasoned, pork (may contain beef) made with cured, lean, ham trimmings and stuffed into a beef or artificial casing or not stuffed into a casing

minced luncheon meat A finely ground, cooked, meat specialty made from lean beef and pork, and spiced and cured

mincemeat A mixture of chopped meat (usually beef), beef fat, apples, raisins, currants, citron, fruit peel, sugar, molasses, and various spices used as the essential ingredient of mince pie; sometimes contains brandy; mixture of apples, raisins, fat, spices, and sometimes meat; ageing (up to 8 months) often improves flavor. Condensed mincemeat contains only 8% moisture; it requires the addition of water and sugar

Required for an 8-9 inch pie: 16 oz regular; 9 oz condensed

1 cup = 10.4-10.6 oz

mince pie

Composition [$\frac{1}{8}$ of 9-in. pie (71 g)]: sodium 258 mg; calories 320

mincing Cutting into very small pieces

mineral (inorganic) In food technology, such elements as iron, calcium, chlorine, copper, iodine, phosphorus, etc., which occur in foods in extremely low concentrations; they are often called trace elements
See Part 2: Egg Products, Nutritive Value; Cereal Enrichment; Cereal Fortification; Cereals, Vitamin and Mineral Content; Lemon Juice Composition; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Wheat, Minerals; Wheat Products Composition

mineral acid Inorganic acid

mineral mixtures (livestock) Free choice

Mixture #1:

100 lb salt

100 lb ground limestone or oyster shell flour

100 lb phosphatic limestone (not over 0.5% fluorine)

Mixture #2:

80 lb steamed bone meal

20 lb salt

mineral oil A liquid petrolatum product that is not absorbed by the body; used as a laxative

mineral oil, white (liquid petrolatum) A colorless, transparent, oily mixture of refined liquid petroleum hydrocarbons (primarily paraffinic and naphthenic types); used as a food binder, defoaming agent, fermentation aid, lubricant, protective coating, and release agent

Storage: tight container

mineral phosphate

Forms:

Apatite

Iron phosphate

Land rock or land plaster

River rock or river phosphate

Usually treated with sulfuric acid to increase solubility

mineral water A nonalcoholic water that contains minerals; water containing minerals salts or carbon dioxide; spring or well water that contains minerals such as calcium, iron, lime salts, magnesium, sodium, sulfur, sulfates; some contain natural or added carbon dioxide

Types:

Aerated (carbon dioxide gas)

Artificial

Natural

Still (not carbonated)

Classified:

Acidulous—excess of CO₂; slight amount of salts

Alkaline—CO₂; alkaline carbonates; sodium chloride; sometimes sodium sulfate

Arsenical

Chalybeate

Sulfurous

See **water, mineral**

mineral wool A fibrous insulation made by blowing air through hot slag

See Part 2: Insulation

miner's inch

1 miner's inch = 1.5 cubic feet per minute (ft³/min)

minestrone (minestra) A soup made from beef, bacon, and ham, vegetables, and spaghetti, macaroni or rice; thick soup. Also available as a condensed canned, ready-to-eat canned, and dehydrated soup

See Part 2: Soup Composition

Minestrone	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Canned, condensed	82.9	3.5	2.0	9.2	0.6	2.3
prepared with water	91.3	1.8	1.0	4.7	0.3	1.2
Canned, chunky						
ready-to-serve	86.7	2.1	1.2	8.6	1.3	
Dehydrated	4.8	20.0	7.8	53.6	1.9	13.8
prepared with water	91.7	1.7	0.7	4.7	0.2	1.2

Ming Dynasty egg See hundred year old egg

miniature fruit tree A natural dwarf that stays small (4–6 ft tall) but produces normal size fruit

minim A measure of volume

1 minim (Brit.) = 0.059 milliliter (ml)

1 minim (U.S. fluid) = 0.062 ml

minimum daily requirement (MDR) Minimum quantities of specified vitamins and minerals necessary to avoid dietary deficiencies; established by Food and Drug Administration See **recommended daily allowance**

minimum price fluctuation The minimum unit by which the price of a commodity can fluctuate per trade

Minnesota No. 1 An inbred breed of hogs developed from a cross of Danish Landrace (48%) and English Tamworth (52%); it is red with occasional black spots See Part 2: Swine Breeds

Minnesota No. 2 An inbred breed of hogs produced by crossing a Yorkshire (40%) boar with Poland China (60%) sows; the hog is black and white with semierect ears

See Part 2: Swine Breeds

minnow (*Phoxinus phoxinus*) A small, freshwater, food fish

Minorca A Mediterranean class of chicken that has white skin and lays a white-shelled egg

Varieties:

Bantam single-comb black

Single-comb black

Single-comb buff

Single-comb white

Rose-comb black

Rose-comb white

minor defect A defect not classified as critical or major and whose failure or malfunction would not significantly reduce the effectiveness of the item

min pada A hot fish pickle

mint (sweet mint; *Mentha piperita* L. and *M. spicata* L.) An aromatic, perennial herb grown for the essential oil distilled from its leaves, which is used for flavoring drinks and in cooking. Leaves are dried and used in summer drinks, teas, jellies, and sauces; fresh leaves are used in salads, vegetables, and candy. Each mint has a different flavor.

Types:

Apple mint; round-leaved mint; royal mint (*Mentha rotundifolia*; *M. spicata*)—delicate

Bergamint; lavender mint; orange mint

Bergamot (*M. citrata*)

Black peppermint (*M. piperita*)

Brandy mint; balm mint (*M. peperita*)—oil of peppermint is obtained from this See **peppermint**

Common mint (*M. canadensis*)

Dittany

Eau de cologne

Horehound

Horsemint (*M. longifolia*)

Hyssop—mildly bitter

Japanese (*M. arvensis* var. *piperascens*)

Lemon (*M. citrata*)

Marjoram

Orange mint—delicate

Oregano

Pennyroyal (*M. rubra*; *M. pulegium*)

Peppermint; oil of peppermint (*M. piperita*)—curly mint (black or white) is a type

Pineapple mint (*M. citrata*)

Red mint (*M. rubra*)

Rosemary

Round-leaved (*M. rotundifolia*)

Spearmint; curly leafed mint; erba santa maria;

green lamb mint; mickel mint; our lady's mint;

pea mint; potato mint (*M. spicata*; *M. viridis*)

Thyme

Sold as dried leaves

Fresh storage: wrap stems in damp paper towels and store in plastic bag in a refrigerator for up to 1 week

See **spearmint**

mint herb blend A scented tea made from black tea and peppermint leaves

mint jelly A jelly made from a mint infusion

Infusion: Pour 2½ cups boiling water over 1 cup fresh mint; let cool and strain

Jelly preparation: Combine 2 cups mint infusion, ¼ cup vinegar or apple cider, and 4½ cups sugar; boil until sugar dissolves; add ½ bottle liquid pectin and boil for 1½ min; cool; add food coloring, if desired; fill sterilized containers and seal with melted paraffin

mint julip An alcoholic drink made with whiskey, sugar, and mint

mint oil An oil obtained by steam distillation from the mint (spearmint, peppermint) plant; it is then mixed with water and alcohol

mint sauce A vinegared, sweet, seasoned sauce containing mint and used with lamb; made from oil of spearmint, sugar, vinegar, water See **spearmint**

mint vinegar

Preparation: Rinse and pat mint dry; fill jar lightly with mint; heat (but do not boil) good cider or wine vinegar and pour over mint; cover; let stand at room temperature for 2–3 weeks; strain through cheesecloth and bottle

minute (min) 1) Angle

1 min = 60 seconds (s)

= 0.01667 degree

= 0.0002929 radian

= 0.0001852 quadrant

2) Time

1 min = 60 seconds (s)

= 0.01667 hour (h)

= 0.0006944 day

minute pirate bug An insect whose adults are generally black marked with white spots or streaks, oval, flat, and about ⅙ in. long. The nymphs are similar to adults, yellowish brown, found on flowers, and under loose bark; they feed on small insects, mites, and eggs and larvae of many kinds of insects

minute steak A boneless, ¼ in. thick steak broiled or pan fried for less than 2 min; a very thin steak; a cube steak

See Part 2: Portion Size

MIO Minimum identifiable odor

MIO medium See Part 2: Microorganism, Media

mirabelle 1) A small, yellow plum (*Prunus insititia*).

2) A clear, strong, white liqueur (brandy) distilled from fermented, yellow plums (*Prunus*)

miraculous fruit A shrub that produces a tart berry; food eaten after the berry tastes sweet

mirafilm Plastic, shrink wrap

miropoix A seasoning made with carrots, onions, ham, butter, bay leaves, and thyme that is used with meat

mirin A sweet, alcoholic condiment made from coconut milk or glutinous rice

mirliton See **chayote**

mironton A beef stew

MIS (Management Information System) A specially designed comprehensive data base that includes all relevant data, records, files, etc., required for a given field; all the data are easy to retrieve, up-date, and use

miscella The liquid remaining after distillation of a solvent that was previously used to extract botanical material

mischlingkäse A hard, sharp, loaf-like, greenish yellow, blended cheese

mish A dry, white, brined (very salty) cheese made from goat's milk

miso (soybean paste) A dark, paste food produced by fermentation and aging of mold, rice, barley, soybeans, and salt in wooden barrels for 3 years; flavorful paste made from soybeans often mixed with cereals

misozuke Pickled vegetables, eggs, or fish in red or sweet white miso

mistelli A dessert wine

mistletoe A parasitic plant that often grows in fruit trees; sometimes used as an herb

mistol A fruit that is consumed raw or its juice is fermented into a beverage

mite A sap sucking pest that damages fruit trees and fruit buds, affecting next season's crop; most fruit trees are suitable hosts

Control: insecticide spray, e.g., dicofol See **cheese mite**; **orchard mite**; **rust mite**; **spider mite**

See Part 2: Mite

miti hue A sweet, alcoholic condiment made from coconut milk

mito- A prefix meaning thread

mitochondria Enzyme-containing bodies (organelles) found within cells; responsible for most cellular chemistry; these powerhouses or dynamos use glucose as the primary fuel

mitosis A nuclear division that yields two daughter nuclei with the same number of chromosomes as the original cell

mitral valve Heart valve that allows one-way flow of blood from the left auricle to the left ventricle

Mittelrhein The northern Rhine region of Germany that produces hearty, stylish wines

M.I.U. Moisture, insolubles and unsaponifiable; the amount and type of impurities present in a tallow

mix To combine or stir two or more ingredients

mixed broil See **mixed grill**

mixed culture A culture composed of two or more types of microorganisms growing together

mixed feeding (of infants) Infants receiving some solid foods while still consuming milk

mixed fruit See Part 2: Fruit, Dried, Simmering; Fruit Servings Per Pound

mixed glyceride A triglyceride in which more than one type of acid is present

mixed grill (mixed broil) A dish of fried chops, bacon, and sausages; sometimes also contains kidney, bacon, steak, and liver; a combination of several meats or seafoods and vegetables, most of which are broiled

mixed rot (addled egg) An egg in which the membrane of the yolk breaks, allowing the yolk and white to blend

mixed vegetables A mixture containing three or more of the following:

beans, green or wax ($\frac{1}{2}$ – $1\frac{1}{2}$ -in. cuts)

beans, lima (large whole green limas or baby limas)

carrots ($\frac{3}{8}$ – $\frac{1}{2}$ -in. cubes)

corn, sweet (whole kernel, yellow)

peas (sieve sizes 3–5)

When three vegetables are used, use no more than 40% of each; when four vegetables are used, use no more than 35% or less than 8% of each; when five vegetables are used, use no more than 30% or less than 8% of each

1 cup = 180 g (6.3 oz)

mixer An effervescent liquid used to dilute or flavor alcoholic beverages

mixture A combination or blend of two or more substances which may be either uniformly or randomly dispersed. The components of a mixture can be separated by mechanical means (gravity, filtration, distillation, etc.). Mixtures are heterogeneous, and thus differ from chemical compounds, which are homogeneous. Milk is an example of a nonuniform mixture; a sugar solution is a uniformly dispersed mixture See also **heterogeneous**; **compound**

mizithra (myzthra) A mild, moist, soft, cottage cheese or ricotta-like cheese made from feta whey and ewe's or goat's milk

See Part 2: Milk and Cheese Composition

mizitra A soft Yugoslavian cheese made from sheep's milk

ml See **milliliter**

MLC See **Meat and Livestock Commission**

M-line A dark line bisecting the H-band in muscle fiber

mylntae A wheat and buckwheat pancake

mm See **millimeter**

M.M.B. Milk Marketing Board (English)

MMWR Morbidity and Mortality Weekly Reviews

Mn Symbol for the element manganese

Mo Symbol for the element molybdenum

mocha 1) A coffee–chocolate flavoring. 2) A variety of coffee; a fragrant coffee with distinctive flavor. 3) Coffee dishes; dish with coffee flavor

mocha–java blend A blend of coffee; $\frac{2}{3}$ java for richness and $\frac{1}{3}$ mocha for sharpness

mocha yemen A sharp, sweet coffee obtained from small, hard, coffee beans grown in the southwest corner of the Arabian peninsula

mochi A pounded rice cake

mock chicken See Part 2: Veal Chart; Veal Cuts

mock crusta A fruit juice-type, nonalcoholic drink

mock duck A specialty cut of lamb made from the outside of the shoulder
See Part 2: Lamb Cuts

mock goose A dish made from beef heart

mock halibut (Greenland halibut) A food fish

mock turtle Calf's head meat and condiments made to simulate turtle meat

mock turtle soup A substantial, gelatinous soup; a dark colored, strong-flavored soup made from meat juices, tomatoes, rice flour, sherry, and spices and containing gelatinous meat from calves' heads (simulating turtle meat)

modality Differentiation of a sense, e.g., sweet, sour, salty, bitter

mode The class that has the greatest frequency

mode, à la 1) In the style of. 2) With ice cream. 3) A dessert served with ice cream, as a pie, melon, etc.

modem A device to interface the computer to a telephone line

modified American plan (MAP) A room rate that includes two meals—breakfast and either lunch or dinner

modified food starch A food stabilizer, thickener, and texturizer

modified starch A chemically treated starch See also starch

modified wine A wine made by alcoholic fermentation of grapes and sugar or syrup (min. 65% sucrose); max. 11% alcohol (by volume)

moelle de chicoree Stumps of curly endive

mohair Coarse wool sheared from Angora goats

moist heat cooking A method of cooking the less tender cuts of meat by surrounding them with hot liquid or vapor; this includes braising and cooking in water

moisture The water content of foods; also steam or atmospheric water vapor See also humidity

See Part 2: Bananas, Composition; Beans, Peas and Nuts; Cereal Nutrient Content; Cheese Composition; Composition of Food; Concentrated and Dried Milk Products; Connective Tissue, Composition; Creams, Butter and Frozen Desserts; Cultured Dairy Products, Composition; Dairy Products, Composition; Egg Composition; Egg Specifications; Fats and Oils, Composition; Fish and Shellfish Composition; Fluid and Fermented Milks, Composition; Food, Composition; Fruit Composition; Grain Analysis; Grain Products Composition; Hide, Layers; Honey Composition; Macaroni and Noodles Composition; Maple Syrup Composition; Meat and Meat Products Composition; Meat Composition; Milk and Cheese Composition; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Products; Milk, Dry Products; Moisture,

Drying; Moisture in Biological Materials; Oil Meals Composition; Oils and Fats Composition; Packing-house By-Products Composition; Plant Foods, Composition; Poultry Composition; Pulses, Nuts and Seeds Composition; Sausage Composition; Seed, Chemical Composition; Seed Composition; Soups, Composition; Soybean Composition; Starches and Starchy Roots Composition; Sugars and Sweets Composition; Sugars and Syrups Composition; Sweetening Agents; Tomato and Tomato Products, Composition; Turkey Composition; Vegetable Composition; Wastes, Agricultural and Industrial

moisture analysis Determination of water content by drying at a specific elevated temperature, with or without vacuum, for a specific time and reporting the loss in weight as moisture; distillation as an azeotropic mixture is sometimes used

moisture and volatile matter Substances that vaporize upon heating; weight loss (escape in vapor state) after heating for a prescribed time under controlled conditions

moisture content Percentage of water (free and bound) present

moisture-vapor-proof A packaging material that prevents moisture loss from foods during storage (e.g., frozen)

moisture-vapor-resistant A packaging material that protects food from moisture loss during storage (e.g., frozen)

molal (m) The concentration of a solution that contains 1 mole of solute in 1,000 g of solvent; sometimes called a formal solution

molar (M) A solution of a concentration such that 1 liter of the solution contains 1 mole (gram-molecular weight) of the solute. A 1 molar solution of sodium hydroxide (mw = 40) contains 40 g of NaOH dissolved in 960 g of water, the total volume being 1 liter

molasses 1) Liquid remaining after the sugar has been removed from the concentrated sugar solution obtained from sugar cane; thick, viscous, by-product obtained when sugar is refined

Cane molasses grades	Min. Brix solids (%)	Total sugar (%)	Ash (%)
A (U.S. Fancy)	79	63.5	Max. 5
B (U.S. Choice)	79		
C (U.S. Standard)	79		
D (Substandard)	79	Under 58	Over 9

Grades:

First-boil or first molasses—65% total sugar; table use; bright amber color

Second-boil or second molasses—60% total sugar; darker and less sweet than first-boil; pronounced flavor

Third-boil (blackstrap)—industrial use; flavoring
Best quality from Antigua, Barbados, Louisiana, Puerto Rico, St. Croix

Types:

Barbados—resembles syrup more than molasses
Cooking (blackstrap)—dark; lower percentage of sugar; higher percentage of ash *See also blackstrap molasses*

Refiners syrup—residual product from refining sugar cane or sugar beet; it is clarified and decolorized; max. moisture 28%; used in flavoring corn syrup

Table—light in color; high percentage of sugar; low percentage of ash

Equivalents:

1 gallon = 11.7 pounds (lb)
1 quart = 3 pounds (lb)
 $1\frac{1}{3}$ cups = 1 pound (lb)
1 cup = 330 grams (10.9 oz)

Feed:

1 bushel = 26 pounds (lb)
1 quart = 0.8 pound (lb)

Sugarcane molasses

Composition	Dehydrated	
	> 46% invert sugar > 79.5° Brix	
Dry matter (%)	94	75
Protein (%)	9.7	4.4
Fat (%)	1	0.1
Fiber (%)	6.3	0.4
Ash (%)	12.5	9.8

1 tbs = 50 calories; pH 5.0–5.5

2) Concentrated, dehydrated fruit juice

See Part 2: Calcium, Daily Requirements; Calories, Daily Recommendations; Food, Composition; Iron, Daily Recommendations; Minerals, Food; Minerals (Trace), Limits; Sugars and Sweets Composition; Sugars and Syrups Composition; Sweetness of Sweeteners; Sweetening Agents

molasses feed 0.8 pounds per quart; 75 pounds of molasses is equivalent to 1 bushel of corn in feeding value; max. amount of molasses to feed: 20% of ration

molbo A large, red, round samsae or edam-type cheese

mold (mould) 1) Single- or multicelled microorganisms that form long, branched, hair-like microscopic filaments of fungal growth; they grow into fuzzy or cottony mats; form airborne spores (seed). Growth is encouraged by warm, dark, damp conditions with little air circulation. Optimum condition for growth: 20–35°C (will grow at 10°C) and moist (but will grow with less moisture than bacteria); will grow on jams, jellies, cheese, meat, fruit, vegetables, and cereals. Molds and yeast are counted using potato dextrose agar or acidified potato glucose agar.

Common gray mold (*Botrytis cinerea*)—usually not harmful if removed promptly and the food is cooked; mold is often used to flavor cheese and meat. 2) To shape food; to shape in a mold. 3) A form or container to shape food; a container in which food is placed to set, thereby allowing it to retain its shape when the mold is removed

See Part 2: Bacteria, Molds and Yeasts; Canned Spoilage Manifestations; Canned Spoilage Related to pH; Culture Media; Egg Specifications; Microbiologi-

cal Media; Microbiological Standards, Dairy; Microorganism, Culture Media, Dairy and Food Products; Mold, Food; Molds, Mycotoxins; Spices, Microbial Content; Spoilage, Protein Foods; Water Activity, Organisms and Food

mold count (mould count) *See mould count*

mold inhibitor Used for dry or semidry sausage:

Apply to outer surface:

Clear mineral oil
Edible vegetable oil
 $2\frac{1}{2}\%$ potassium sorbate

mold, seam The vertical mark on the body of a glass container caused by matching of the two body mold parts

moldy A mold-like odor or flavor

mole (mol) An amount of substance containing the same number of chemical units (atoms, ions, molecules, electrons, etc.) as there are atoms in 12 grams of the 12 isotope of carbon, namely, Avogadro's number of such units, or 6.023×10^{23} . This meaning has replaced the earlier definition of mole as the gram-molecular weight or gram-atomic weight of a substance *See also Avogadro's number; atomic weight*

moleche Soft-shelled crabs; the entire crab, including the shell, is eaten

molecular formula A chemical formula that states the number and kind of atoms in a molecule, but does not indicate their arrangement

molecular weight The sum of the weights of all the atoms present in a molecule. In the case of many high polymers, such as proteins, this may be several million

molecule The smallest unit of a chemical compound that can retain the properties of the compound. A number of elements exist in molecular form, for example, helium (monatomic), oxygen, fluorine, bromine, chlorine, hydrogen (diatomic), and ozone (triatomic)

moliterno A provolone-type cheese made from cow's or sheep's milk

mollusk (mollusc) A class of shellfish that has a soft, unsegmented body and a calcareous shell, i.e., clams, mussels, oysters, scallops, squid, octopuses, abalone

See Part 2: Fish and Shellfish Composition

moltose *See Part 2: Honey Composition*

molts The process by which birds replace old feathers with new; molting time $1\frac{1}{2}$ –6 months. Hens molt at 18–20 months; no eggs are laid during this time

molu bolo Baked, fermented, rice balls

molybdenum (Mo) A metallic element; at. no. 42; at. wt. 95.95; Group VIB of Periodic Table; oxidation states +2, +3, +4, +5, +6; electron configuration 2–8–18–13–1
orbit K L M N O

Deficiency causes whiptail in cauliflower and broccoli
See Part 2: pH and Availability of Plant Nutrients; Wheat, Minerals

momoni A strong flavored, dried, salted fish used as flavoring

moncenisio A blue mold cheese

mon chou A brick-shaped, foil-wrapped, excelsior-type cheese

mondseer A soft to semisoft, strongly flavored cheese made from partly skimmed or whole cow's milk and ripened by surface bacteria

Monel metal An alloy of the elements of Cu, Ni, Fe, Mn, C, and Si or Al; slightly soluble in food

monensin A growth promoter that stimulates rumen flora efficiency

monensin, sodium A drug used to improve feed efficiency

monetary compensatory amount A charge or refund made by European Economic Community (EEC) members to compensate for the effect of currency movement in relation to official parity

monetary policy Policies to influence the supply of money and the rate of interest

mongo See **mung bean**

Mongolian cattle Brindle, brown, black, or yellow, nonhumped, hardy, tripurpose (beef, milk, draft) cattle that originated in Inner Mongolia, northeastern China

Mongolian fat-tailed sheep A fat-tailed sheep that has white fleece (carpet grade with a lot of kemp) and a black or brown head; used for wool and mutton; found in east and south China and in Inner Mongolia

mongrel An animal of nondescript breeding; (usually derogatory, e.g., "son and heir of a mongrel bitch")

Monilia See Part 2: Spoilage, Carbohydrate Foods; Spoilage, Fat in Foods; Spoilage, Protein Foods

Monitoring The routine sampling subprogram of the National Residue Program in which samples for residue analysis are collected at slaughter establishments from randomly selected livestock and poultry carcasses

Monkey Foundation sire of the Santa Gertrudis breed

monkey apple See **custard apple**

monkey bread (baobab) A large tree that bears gourdlike fruit. The fruit pulp is sweet and acidic and used as a drink; the leaves are dried for an herb

monkey fruit See Part 2: Fruit Composition

monkey nut See **peanut**

monkey puzzle nut A large, oily, hard, tree nut

monkfish (angelfish; angler; anglerfish; goosefish; poor man's lobster) A large, Atlantic, saltwater, finfish with a large head and flat, thin body. The flesh is firm and white with a mild, lobsterlike flavor
Northeast Atlantic (*Lophius piscatorius*) anglerfish

Northwest Atlantic (*Squatina squatina*) angelfish
Composition: fat 0.7% See **scup**

monk's beard See **chicory**; **French endive**

monk's head See **bellelay**; **monk's-head cheese**

monk's-head cheese (bellelay cheese) A soft, rennet cheese made by the Swiss

mono- A prefix meaning one or single

monoammonium glutamate (ammonium glutamate) ($C_5H_{12}N_2H_4 \cdot H_2O$) Used as a food flavor enhancer or salt substitute
Storage: tight container

monoammonium phosphate A fertilizer material; 20-66-0

mono- and diglycerides A variable mixture of mono- and diesters of glycerol with a small amount of triglycerides from edible fats or oil or fatty acids. Used as a food emulsifier or stabilizer
Storage: well-closed container

monoclonal antibodies (MABs) Cloned and screened hybridomas See **hybridomas**

monoecious Male and female flower parts in separate flowers but on same plant

monogastric Single-stomach animals, e.g., swine, chickens

monoglyceride Glycerol esterified with one molecule of an acid; has good emulsifying properties
Types (position of esterified fat):

Alpha (#1 position)—usually 87–98% of monoglyceride

Beta (#2 position)

Use:

Antistaling in yeast-raised, baked goods

Opacifiers in cosmetics

monoglyceride citrate A mixture of glyceryl monooleate and its citric acid monoester. Used as a food solubilizer and/or synergist for antioxidant
Storage: well-closed container

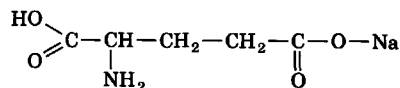
monohydric Containing one replaceable hydrogen or hydroxyl group per molecule

monomer Small molecules

monopotassium glutamate (potassium glutamate; MPG) ($C_5H_8KNO_4 \cdot H_2O$) Used as a flavor enhancer for food or salt substitute
Storage: tight container

monosaccharide A sugar of simple molecular structure that is not decomposed by hydrolysis; simplest form of carbohydrate, e.g., hexose; glucose, fructose, galactose

monosodium glutamate (MSG)



A product derived by hydrolysis of vegetable protein or waste liquor from beet sugar refining; used to enhance the natural flavors of food; 0.2–0.5% concentration on salted food. Some people are allergic to this additive

Composition: sodium 492 mg/tsp (5 g)

Storage: tight container

See Part 2: Glutamate; Glutamate Addition

monosodium phosphate (NaH_2PO_4) A food emulsifier used in some cheeses and meat to reduce juice loss during cooking

monostorer A ewe's milk cheese

480 monounsaturated fatty acid

monounsaturated fatty acid Dietary recommendation is 15% or less of total calories from monounsaturated fatty acids

monsecur A medium flavored (sometimes seasoned with pepper), semisoft, cheese with an artificial black rind

monsieur blanc A high fat (50–55%), white, unfermented cheese made from cow's milk

monsieur fromage A semisoft, double cream, small cylinder cheese made from cow's milk and covered with white mold and cured 4–5 weeks

monstera (*Monstera deliciosa*) A fruit that looks like a large ear of corn and tastes like a combination of many fruits

Monstera deliciosa (ceriman; tropical fruit salad plant) An elongated fruit from a climbing plant; used to make a beverage

Montadale See Part 2: Sheep Breeds

montagne A very thin salami made from coarsely chopped pork; a dry, uncooked, unsmoked French sausage made from coarsely chopped, mildly seasoned pork that is fermented and stuffed into a pork casing

montan An earth wax obtained from lignite
See Part 2: Wax

Montana No. 1 A breed of hogs developed by crossing solid black Hampshire (45%) boars with Danish Landrace (55%) sows; it is solid black in color
See Part 2: Swine Breeds

montanic acid See Part 2: Saturated Fatty Acids

montasio A hard, dry, low-fat, 7–12-kg grating cheese made from cow's milk; a sharp, soft, Italian cheese

montavoner A panir-type cheese made from cow's milk with herbs added; a sour milk and herb Austrian cheese

Mont Blanc chestnut (gesztenyepure; kastanienreis) Riced chestnuts

Mont-cenis A hard, blue-mold, French cheese similar to Roquefort and made from cow's, sheep's, or goat's milk with rennet added

Mont-des-cats A tilsit-type, cow's milk cheese

Mont d'or 1) A cow's milk, muensterlike cheese. 2) Originally a goat's milk cheese; now a goat's or cow's milk cheese

monte aguilá An allspice-flavored, digestive liqueur

montecenisio A blue cheese made from cow's or goat's milk

montepulciano A red, Italian, dessert wine

montepulciano d'abruzzo A grape grown in east central Italy from which a pale red wine is made

monterey cheese

Composition: moisture 40.0%; protein 24.5%; fat 30.3%; carbohydrate 0.7%; ash 3.5%

Monterey Jack (**Jack**) A mild to mellow-flavored, semisoft to semihard (aged), cheddarlike, American cheese made from whole milk; white to light cream interior; sold in wheel shape; ripened 2–6 weeks for table use, 6–9 months for grating. A muenster-type

cheese made from whole or partly skimmed cow's milk; may or may not be surface ripened. Used in a sandwich or with fresh fruit

1 cup, shredded = 4 oz

Composition: moisture 41–42%; protein 24–25%; fat 30–31%; carbohydrate 0.6–0.7%; fiber 0%; ash 3–4%; sodium 152 mg/oz

monthery A soft, surface-ripened, brielike, cheese made from cow's milk

montilla A dry, light, sherry-type, Spanish wine

monthlery A soft, French cheese made from cow's milk with rennet added

montoire A valençay-type cheese made from goat's milk

montpellier A white wine

montrachet 1) A strong, dry, perfumed, white wine.
2) A soft, white, cheese made from goat's milk and cured for 1 week; a medium strong, salty, log-shaped goat cheese that is sometimes rolled in charcoal

montrachet cheese A sharp French cheese made from goat's milk and with a black, edible, ash coating

montresor A valençay-type cheese made from goat's milk

moon blindness A condition in which blue film covers the pupil

moonfish (**horsefish**) A small (12 in. or less), silver-colored, saltwater food fish
Atlantic (*Vomer setapinnis*)
Pacific (*V. declivifrons*)

moong See mung bean

moonshine An illegally produced, alcoholic beverage

moor cock A male, red grouse

moose A large member of the ruminant deer family

mootsanji An acidic, carbonated, oriental radish

MOR Marine Oil Refiners of Africa, Ltd

morantel tartrate A drug used as a wormer

moratorium A postponement in payment of interest and principal on debts

morbier A semisoft, tilsit-type French cheese made from cow's milk

morcela A moist, cooked, unsmoked Brazilian sausage made from finely chopped, mildly seasoned pork and stuffed into pork casings

morcilla A moist, cooked, smoked Argentinian sausage made from finely chopped, mildly seasoned beef and pork, pork backfat, pork skins, and beef blood and stuffed into beef, pork, or artificial casings

mordant A coagulant used to bind dye to cloth fiber, e.g., aluminum hydroxide, stannic acid

morel (**smorchok**; *Morchella esculenta*) An edible fungus that is topped with a network of light brown ridges; valleys are darker brown; a mushroom; may be dried for later use

Moreton Bay chestnut See bean, black

morgan (*Cirrhina orius mrigala*) An Indian food fish

morgon A red wine

mori A green, Japanese tea

morin See **limburger cheese**

moringa A 1-cm fruit pod that is used to flavor food

morino cream cheese A rich, soft, French cheese

Mornay A sauce made with butter, egg yolks, milk, cream, and parmesan cheese

morning roll A soft-textured, wheat flour roll

moromi A thick, fermented, soybean cereal or cereal mash containing bacteria, yeast, and molds; used in production of miso, sake, and soy sauce

morphine ($C_{17}H_{19}NO_3$) A powerful and addictive narcotic (alkaloid) derived from poppy seed; used to relieve pain in extreme cases

morphology The form, shape, and structure or arrangement of living things or cells

Morrill Land Grant College Act Passed in 1862

mortadella 1) A fermented and/or semidry or dry, cooked or uncooked, smoked American sausage made from medium or coarsely chopped, mildly seasoned (red pepper, garlic, and anise) beef and pork (made with finely ground meat and coarsely ground fat cubes) with pistachio nuts added and stuffed into a beef or artificial casing; available in links, rings, or large diameter casing. 2) A cooked sausage (but may also be dry or semidry) made mostly of pork (75%) mixed with beef (25%) or veal; after curing it is mixed with pork fat cubes; it is then smoked gradually until the internal temperature reaches 140°F. 3) A moist, cooked, smoked Argentinian sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into beef, artificial, sewn dried beef bladder, weasand casing, or no casings or cooked in molds. 4) A semidry sausage made with pork and beef that is lightly seasoned and smoked; a semidry, smoked, medium chopped Austrian sausage made from heavily seasoned (nitrite) beef and pork and stuffed into artificial casings with a diameter of greater than 70 mm. 5) A moist, cooked, unsmoked Australian sausage made from medium chopped, heavily seasoned (red wine, crushed peppercorns) beef and stuffed into artificial casings; flavored with spices, garlic, and anise.

Types:

German—has pistachio nuts added to cubes of bologna and pork fat

Italian—has garlic

Composition: moisture 52%; protein 16.4%; fat 25.4%; carbohydrate 3%; ash 2.9%; sweet red peppers max. 4%; pistachio nuts max. 1%

See Part 2: Sausage Identification; Sausage, Types

mortadella, French 1) A moist, cooked Greek sausage made from finely chopped, heavily seasoned pork and stuffed into beef or artificial casings. 2) A moist or semidry, cooked, unsmoked French sausage made from finely chopped (mixed with diced pork fat), mildly seasoned (up to 6% milk powder) pork that is sometimes fermented and stuffed into beef or artificial casings

mortadella, German A high grade, cooked, smoked (high temperature) sausage, similar to bologna with cubes of pork fat and pistachio nuts added

mortadella, Greek A moist, cooked Greek sausage

made from finely chopped, heavily seasoned beef and pork and stuffed into a beef cecum or bladder or into an artificial casing

mortadella, Icelandic A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned, beef and pork with pork fat added and stuffed into an artificial casing

mortadella, Irish A moist, cooked, unsmoked Irish sausage made from medium chopped, medium seasoned pork and stuffed into an artificial casing

mortadella, Italian A moist, cooked, unsmoked Italian sausage made from finely or coarsely chopped beef and pork and stuffed into a beef or artificial casing

mortadella, Mexican A moist, cooked, unsmoked Mexican sausage made from finely chopped, mildly seasoned beef and pork and stuffed into an artificial casing

mortadella, Norwegian A moist, cooked, unsmoked Norwegian sausage made from medium chopped, heavily seasoned beef and pork and not stuffed into a casing

mortadella, Polish A moist, cooked, smoked Polish sausage made from finely chopped beef with textured vegetable protein added and stuffed into a pork bladder

mortadella, Swiss 1) A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from fine or medium chopped, medium seasoned beef and pork and stuffed into an artificial casing. 2) A moist, cooked Greek-style sausage made from finely chopped, heavily seasoned pork and stuffed into beef or artificial casings

mortadello A moist, chopped, mildly seasoned (peppercorns), cooked sausage made from pork or beef and pork and containing cubes of pork fat and sometimes milk powder; usually large diameter

mosaic (soilborne) A virus that causes light yellow-green mottling and striping of wheat leaves; causes loss in yield

moscatel A sweet, Spanish, dessert wines made from muscat grapes

moscatello (moscato) A sweet, Italian, dessert wines made from muscat grapes

moscato An Italian, dessert wine See **moscatello**

Moselle 1) Table wines produced in the Moselle River valley in southwest Germany as well as the Saar and Ruwer river valleys. The wine is normally made from Riesling grapes grown on slate soil and is clear, fresh, often naturally effervescent (spritzig), acid, and dry. Similar to Rhine wine but not as long lasting. 2) A wine having a clean, fresh flavor, often natural effervescence, and low alcoholic content; generally dry, with a fine bouquet

Vineyards:

Berncastel
Brauneberg
Erden
Graach
Piesport
Uerzig
Wehlen
Zeltingen

Mosel-Saar-Ruwer The region in southwest Germany on the steep terraces of the three rivers that produces exhilarating, fragrant, and delicate wines made primarily from Riesling grapes

mossberry See **cranberry**

mostaccioli A short, $\frac{3}{8}$ -in. diameter, rod-shaped, macaroni pasta product with angle cut ends; total length approximately 2 in.

Mostaccioli—smooth surface

Mostaccioli rigati—lengthwise ribs on surface

1 cup = 2 oz

mostelle (**mostele**; *Gaidropsarus mediterraneus*)
A whiting-type fish

mosto See **must**

most probable number See Part 2: Most Probable Number; Most Probable Number, Bacterial

motal A brined, white cheese made from cow's or sheep's milk

moth See **codling moth**; **eye-spotted bud moth**; **grape berry moth**; **oriental fruit moth**; **pecan bud moth**

mothais See **chevré a la feuille**

moth bean (**mat bean**; *Vigna acontifolia*) A semi-arid legume whose small seeds are used as a vegetable; the plant is used as hay or green forage

mother 1) In vinegar, a mold that contains microorganisms that can be used as a starter. 2) A solution that remains after separation of a precipitate, e.g., mother liquor. 3) A secretion of the oyster from which pearls are formed (mother-of-pearl)

mother-of-clove oil A brown oil obtained by steam distillation of the ripe fruit of the clove tree
Composition: eugenol 53%; phenol 35%

mother's loaf A high carbohydrate, pork sausage
Composition: moisture 55%; protein 12%; fat 22.3%; carbohydrate 7.5%; ash 3.2%

motility medium See Part 2: Microorganism, Media

moto A yeast used in sake brewing

motoho A nonalcoholic, sour drink made from maize

mottle necrosis (*Pythium selerotcichum*; *P. ultimum*) A field disease that produces brown, sunken spots in the surface of sweet potatoes; internally there are patches of brown, dead tissue that give a mottled appearance

mould See **mold**

mould count (**mold count**) The number (or % of microscopic fields) of mold fibers or spores in a given amount of food

Maximum % of microscopic fields: orange juice 15%; tomato juice 20%; strawberries 55%

moulin-a-vent A red wine

mountain cranberry See **cowberry**

mountain herring See **white fish**

mountain laurel A plant having a toxic principle
See Part 2: Poisonous Plants

mountain oysters See **fries**

mountain pepper See **caper**

mountain spinach See **orache**

moussala Heavily seasoned, pork salami

mousse 1) A frozen or chilled whipped cream to which sugar, flavor, and ice cream mix or gelatin has been added; usually frozen without agitation; the lightness is due to foam or froth.

Types:

Dessert—sweet and frozen

Meat, fish, or vegetables—gelatin added and chilled

2) A hot (velvety) or cold (with gelatin), cream-based dish often with eggs

mousse de Japan See **agar-agar**

mousseline A cream and mayonnaise sauce

mousseux A general term for sparkling wine

moutarde A butter sauce flavored with mustard

mouthfeel A mixed experience caused by food in the mouth and related to physical and chemical properties of the food

mouzoum A clear, mildly alcoholic, sorghum beer

moving average A procedure of consecutive measurements of the mean, for example,

$$\bar{X}_1 = \frac{5 + 7 + 3}{3} = 5$$

$$\bar{X}_2 = \frac{7 + 3 + 4}{3} = 4.67$$

$$\bar{X}_3 = \frac{3 + 4 + 6}{3} = 4.33$$

mowa A sorghum beer

moyashi Soybean sprouts

mozarinelli A soft Italian cheese made from cow's milk with rennet added

mozzarella A sliced or shredded, mild, delicate, semi-hard cheese made from milk and used for pizza or lasagna; creamy, white interior, mild and delicate flavor, firm but elastic and springy texture; when heated becomes stringy or stretchy. Sold in rectangular or spherical shape; made from whole or partly skimmed cow's milk and is not ripened. A soft, mild, pulled curd, cooking cheese in 50–500 g sizes made from cow's or cow's and buffalo's milk with rennet added

1 cup, shredded = 4 oz

Composition	Made from part skimmed milk	Made from whole milk
Moisture (%)	53–54	48–54.5
Protein (%)	24–25	19–22
Fat (%)	15–17	18–25
Carbohydrate (%)	2–3	2–3
Fiber (%)	0	0
Ash (%)	3–4	2–4
Salt (%)		1

Storage: Can be frozen (0°F) if no more than 1 in. thick; use in 6 months

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Dairy Products, Composition II

mozzarella cheese

Composition	Average	Low moisture	Low moisture, part skimmed	Part skimmed
Moisture (%)	54.1	48.4	48.6	53.8
Protein (%)	19.4	21.6	27.5	24.3
Fat (%)	21.6	24.6	17.1	15.9
Carbohydrate (%)	2.2	2.5	3.1	2.8
Ash (%)	2.6	2.9	3.7	3.3

Sodium (mg/oz) 106–132

mpapa A sour, maize porridge

MPG See **monopotassium glutamate**

MPI Meat and Poultry Inspection (Division of FSIS)

MPL Minimum proficiency level: the minimum amount of analyte expected to be identified and quantified by a laboratory and upon which ongoing capability will be evaluated

MPN See **most probable number**

mpu nam Antelope or game meat jerky

mqomboti joala A sorghum beer

MR-VP medium A medium for growth of coliform organisms and *Bacillus cereus*

See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

MS Mass spectrometry

MSC Marine Sciences Council

MSG See **monosodium glutamate**

msir Pickled lemon

mslalla An olive

mu (μ) The Greek letter that is the equivalent of the English m

muchung kimchi Acidic, carbonated, oriental radish leaves

mucilage A substance used for soothing inflammations

mucilaginous Viscid and moist; sticky; a measure of gumminess used in relation to cassia

mucin A mixture of amino sugars, glucuronic acid, and sulfuric acid. A glycoprotein that is the lubricating protein of saliva

See Part 2: Histochemical Test

muck Partially decayed vegetable matter; similar to peat; well drained muck is good soil for many vegetable crops

mucopeptide A sugar-amino-acid complex

Mucor A type of fungus that grows on dead or decaying vegetable matter

See Part 2: Molds, Mycotoxins; Rot Spoilage

mucous Descriptive of a type of lining membrane that secretes a viscid liquid (mucus)

See Part 2: Intestine, Cross Section

mucous membrane The lining of the intestinal and genitourinary tracts

mud carp (*Cirrhina mitorrella*) A food fish

Mueller hinton agar See Part 2: Microbiological Examination of Dairy Products

Mueller tellurite base See Part 2: Microorganism, Media

muenchner weisswurst A white veal sausage with some pork added

muenster A semisoft, sweet cheese that has small holes, mild to strong flavor, and an orange rind; similar to fontina

Storage: can be frozen (0°F) if no more than 1 in. thick; use in 6 months

muenster cheese (tuma) A semihard, rich, appetizer cheese made from whole milk with mellow to sharp flavor (between brick and limburger); it has a yellow-orange, tan, or white surface with creamy white to light yellow interior (numerous small openings); sold in small wheels or blocks; ripened 2–8 weeks by bacteria surface growth

1 cup = 4 oz, shredded

Composition: moisture 41–44%; protein 23–25%; fat 28–30%; carbohydrate 1–1.5%; fiber 0%; ash 3–4%; salt 2%; sodium 178 mg/oz

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content

muffin A small, unsweetened cake made from wheat or corn flour (2 volumes), leavening agent, salt, fat, liquid (1 volume), and often sugar and/or eggs; sometimes fruit and other materials are also added. Soft, aerated, usually round (80–100 mm diameter), 20–30 mm thick, cereal product. Baking time 20–25 min at 400°F

Types:

Apple cinnamon
Banana nut
Blueberry
Bran
Butter pecan
Corn
Date nut
English
Honey bran
Oatmeal
Orange
Sour dough
Spice
Wheat

Composition: cholesterol 21 mg/3 in., plain

See Part 2: Grain Products Composition; Portion Size

muffin mix A dry, commercially prepared mixture containing most muffin ingredients; only liquid items need to be added

Storage: room temperature away from the heat of range or refrigerator

muffuletta A sandwich in which a round, Italian loaf envelopes sliced salami, cappicola, and a pickled vegetable mixture

mugabi A baked chindanda made of millet or sorghum

mugi-miso A flavorful pasta made from soybean and barley

484 mugwort

mugwort A bitter, perennial herb; leaves are used in stews and stuffings *See* **wormwood**

Muir A variety of freestone peaches

muji koji Barley koji *See* **koji**

mukaka A fermented, cottage cheese made with cow's milk with cream added to curd

muko *See* **jora**

muksun (*Coregonus muksun*) A food fish found in the Soviet Union

mukumbi A wine fermented from *Scleroaya caffra*

mukuzani A heavy, purplish red, dense wine

mulato A chile pepper; slightly larger than ancho; when ripe it is brown and mild

mulberry A tree that produces black or white, or pink or purplish berries; when they are ripe they are juicy but difficult to store; they are eaten fresh or made into wine or jam; white mulberry leaves are used as food for silkworms

Type:
Black—*Morus nigra*
Red—*M. rubra*
White—*M. alba*

See Part 2: Fruit Classification

mulch A material applied to the soil surface to conserve moisture, maintain soil temperature (insulation), and/or as an aid to control weeds; commonly organic matter but can include plastic or aluminum that are applied to the surface of soil to discourage weed growth, allow water to penetrate, reduce water loss, and eliminate cultivation

mule 1) A hybrid from the mating of a jack and a mare. 2) Crossbred sheep produced by crossing Swaledale and Bluefaced Leicester

mule duck A crossbred duck produced by mating female Muscovy ducks to Mallard-type drakes; the offspring are sterile; used for meat

muley (mulley) Naturally hornless

mull To heat a liquid (e.g., cider or wine) with spices

mullah An individual who slaughters animals according to the Muslim halal method

mullet (jumping; silver; striped; white) A fat fish with two barbels on the chin; caught in south Atlantic and Gulf coast areas. A light meat, light to moderate flavor, finfish

Type and habitat
Bluetail (*Valamugil seheli*)—Australia
Common Gray (*Mugil cephalus*)—Atlantic, freshwater, Pacific
Diamond-Scaled (*Liza vaigiensis*)—Australia
Eastern Gray—north China coast
Fat-Tail (*Liza argentea*)—Australia
Gray (*Liza ramada*; *Mugil auratus*; *M. chelo*)—Europe
Green-Backed (*Liza dussumieri*)—Australia
Leaping Gray (*Liza saliens*)—Europe
Lesser Gray (*Mugil labrosus*)—Europe
Long-Finned Gray (Golden Gray; *Liza aurata*)—Europe
Red (*Mullus barbatus*; *M. surmuletus*)—northeast Atlantic, Mediterranean

Red (*M. auratus*)—west Atlantic
Redeye (*Mugil gaimardiana*)—Atlantic
Sand (*Myxus elongatis*)—Australia
Silver (*Mugil georgii*)—Australia
Thick-Lipped Gray (*Liza labrosus*)—Europe
Thin-Lipped Gray (*Liza ramada*)—Europe
White (*Mugil curema*)—Atlantic
Yellow-Eye (*Aldichetta forsteri*)—Australia

Fat 4.6%

See also **pelagic fish**

See Part 2: Frozen Food Storage

mulligatawny A hot and spicy (primarily pepper) soup containing chicken stock, rice, and tomatoes and spiced with curry powder; highly spiced rich, vegetable broth

mulse A claret and honey beverage

multi- A prefix that denotes many

multifidus dorsi Back muscle that connects the transverse process to the spinous process of the vertebra in front of it; in cross section, it is medial and ventral to the *longissimus dorsi* and lies close to the spinous processes

See Part 2: Beef Rib Nomenclature

multilateral agreement An international compact between three or more parties

multiple deficiency syndrome A form of protein-calorie malnutrition usually found with vitamin and mineral deficiencies

multiple fruit Fruit formed from several flowers that combined during ripening, e.g., pineapple

See Part 2: Fruit Classification

multiple pairs *See* Part 2: Taste Panel, Difference Tests

multiple-range test A test using different significance values depending on the number of means being compared

multiple-source buying Purchasing from many suppliers; resorted to, by the buyer, for developing new suppliers

multiple standard *See* Part 2: Taste Panel, Difference Tests

multiplication An increase in number of cells; usually the result of growth

multiplier A virus disease of strawberries that causes production on many crowns; may be controlled by planting virus-free stock and using insecticides

mum An ale brewed from malted wheat, beans, oatmeal, and herbs

munajuusto *See* **egg-shaped**

munchener 1) A strong, dark, malt-flavored, less bitter, lager beverage. 2) A medium to coarsely chopped, cooked, unsmoked American, large diameter link or ring sausage

munchner, weisswurst A moist, cooked, unsmoked Swiss sausage made from finely chopped, mild or medium seasoned beef, pork, and veal stuffed into a pork or sheep casing

mundoo A meat dumpling

mung bean (golden gram; green gram; mongo; moong; mungbean; *Phaseolus mungo* var *radiatus*; *Vigna radiata*) A small, leguminous bean (green, brown, golden) from which sprouts can be obtained; unsprouted beans can be used the same as other dried legumes. Pods are cylindrical, 4–10 cm long, hairy to smooth, with 8–10 seeds/pod; seeds are round to square at the ends; 20,000–25,000 seeds/kg

Composition: protein 24%; carbohydrates 58%

See Part 2: Vegetable Composition

munkoyo A sour, nonalcoholic drink made from maize or millet and flavored with munkoyo root (*Rhynchosia veramlosa*)

munkrull A moist, cooked, unsmoked Norwegian sausage made from medium chopped, mildly seasoned, beef and pork and not stuffed into a casing

münster (colmar; géromé; strassburg) A soft to semisoft to semihard, mild to mellow to strong flavor (caraway, anise seed) French cheese made from whole cow's milk and ripened by surface bacteria (aged 2–3 months under humid conditions); it is creamy white, cylindrical-shaped, with a yellow-tan (brine washed) to red surface; often flavored with wild cumin; 45–50% fat

mun tao A steamed, wheat (sometimes maize or rice) bread

muratina A turbid, alcoholic wine made from sugar-cane juice; usually consumed fresh

murcha See atsumandie

murcott A large variety of orange that resembles a tangerine; available February through April

mure sauvage A brandy distilled from fermented blackberries

muriate of potash Obsolete term for potassium chloride (KCl); a neutral fertilizer material; 0-0-50 or 0-0-60

See Part 2: Fertilizer; Fertilizer Materials

muratic acid See hydrochloric acid

murlin See badderlock

muroaji (*Decapterus muroadsi*) A Japanese food fish

murol A medium flavored, semisoft cheese

murrain wool Wool from decomposed sheep

Murray Gray An Australian breed of cattle that is the product of a Shorthorn-Angus cross; it is a polled, solid-color (dark to silver gray) coat, docile breed of cattle known for carcass quality

muruku Deep-fried cakes or balls of spiced gram flour mixed with rice flour

mus A banana liqueur

muscadet A sweet, dessert wine made from muscat grapes; similar to California muscatel

muscadet A light, specific-bouquet, dry, white wine made in Loire, France

muscadine

Varieties: Carlos; Cowhart; Fry; Higgins; Hunt; Jumbo; Magonolia; Nobel; Pride; Scuppernong; Welder

muscat (*Vitis vinifera*) 1) A very sweet, highly scented, white or black grape, usually without pits; used for dessert and to make sweet, dessert wine. 2) A perfumed, flavored white wine

muscatel 1) A golden, sweet, dessert wine made from muscat grapes. 2) A gold to amber, fortified wine 3) An English, sweet, white, sparkling, elderberry-flavored wine

muscatel (American) wine A golden, dessert wine made from muscat grapes

muscle 1) A fibrous, dense tissue attached to the bony structure of the body that contracts to permit movement of the limbs See also **gastrocnemius**. 2) Lean meat

See Part 2: Gland Weights; Muscle and Body Weight; Organ Weights; pH Values of Biological Materials

muscle boning Boneless meat divided at the natural seams

muscle fiber 10–100 μ m diameter; millimeters to many centimeters in length

muscovado See sugar cane

Muscovy duck A large, black (some are white) duck with red areas near the base of the beak and eyes; found in southeastern China; originated in South America. The white variety is the most popular in U.S.

mush A soft food product made from cornmeal, soybean flour, or hominy; may be boiled and eaten as a breakfast cereal or fried and served with butter, syrup, etc. See also **grits**

mushroom Any edible fungus of the orders *Agaricales* or *Lycoperdales*, e.g., *Agaricus campestris*; may be white (good appearance), pink, or brown (pronounced flavor). Microscopic, fruiting bodies of basidiomycete fungi; often used as a substitute for meat flavor; hundreds of varieties (some are poisonous), from $\frac{1}{4}$ to over 6 in. in diameter

Types:

Almond flavored (*Agaricus fabaceus*)

Amanita (*Amanita phalloides*)—poisonous

Baby (*Coprinus micaceus*)—very small, shaggy

Cepes—large, fully open mushrooms

Champignons—button mushrooms

Coral (*Clavaria aurea*)—white, buff, orange, coral-like branches

Edible boletus (*Boletus edulis*)—large, smooth

Field (*Agaricus campestris*)—smooth, medium caps; mushroom of commerce

Alaska—small

Snow White

Silver King

Bohemia—large, brown

Columbia—cream

Fresh—closed around the stem by a thin veil

Giant puffball (*Lycoperdon giganteum* or *Calvatia gigantea*)—very large

Horse (*Agaricus arvensis*)—large

Ink cap (*Coprinus atramentarius*)—small, shaggy

Morel (*Morchella esculenta*)—spongy

Parasol (*Lepiota procera*)—tall, rough, reddish brown

Shaggy mane or horsetail (*Coprinus comatus*)—shaggy

mushroom, pickled Made by placing mushrooms in cold water for 2 days, then adding salt and spices, and fermenting for 1 month

mushroom sauce Made from mushrooms, spices, tomato paste, tomato puree, and vegetable oil; used with fish, macaroni, meat, and spaghetti

Composition	Dehydrated	Dehydrated, prepared with milk
Moisture (%)	3.5	80.8
Protein (%)	14.4	4.2
Fat (%)	9.5	3.9
Carbohydrate (%)	54.7	8.9
Fiber (%)	1.0	0.09
Ash (%)	17.9	2.2

mushroom soup

Composition	Dehydrated	Dehydrated, prepared with water
Moisture (%)	3.2	91.7
Protein (%)	10.2	0.9
Fat (%)	22.3	1.9
Carbohydrate (%)	51.2	4.4
Fiber (%)	0.3	0.03
Ash (%)	13.2	1.1

See Part 2: Soup Composition

mushroom with beef stock, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	84.6	92.1
Protein (%)	2.5	1.3
Fat (%)	3.2	1.6
Carbohydrate (%)	7.4	3.8
Ash (%)	2.3	1.2

mushy A soft, thick, pulpy, mushlike texture

musigny A red wine

musk An odorant of animal origin (deer); also made synthetically; used as an ingredient of perfumes and fragrances; contains muscone, $\text{CH}_3\text{C}_{15}\text{H}_{27}\text{O}$ See also **musk ox**

muskellunge (*Esox masquinongy*) A large (average 5–6 lb) food fish

muskmelon (*Cucumis melo*; *Cucurbita moschata*) A variety of melon similar to cantaloupe. Seed $\frac{1}{2}$ oz per 100 ft row; 2 ft between plants in rows 5 ft apart; matures in 100 days. Harvest when stem comes off cleanly, leaving a concave depression in the melon

Variety:

- Home garden
- Hales's Best
- Hearts of Gold
- Rocky Ford (A type)
- Home garden (Maryland-Virginia)
- Sweet Air (Knight)

Home garden (northern states)

Osage

Pride of Wisconsin (Queen of Colorado)

Irrigation (west)

Casaba

Honey Dew

Mildew resistant

Dulce

Gulf Stream

Perlita

50% refuse See **cantaloupe**; **melon**

See Part 2: Cucurbit Crops, Spacing and Depth of Planting; Fruit Classification; Fruit Composition; Fruit Composition, Part I; Minerals, Food; Planting Density; Storage; Sugar, Vegetables; Tocopherols; Vegetable Planting and Maturity Chart; Vegetable Plants; Vegetable Storage; Vegetable Yields

musk ox North American Arctic ruminant that exudes a characteristic odor; odor does not affect meat

muskrat (marsh rabbit) An edible, aquatic rodent

musom A fermented, semidry, pork or beef sausage

mussel (bay mussel; oyster of the poor) A sea, bivalve mollusk that is oblong ($3 \times 1\frac{1}{2}$ in.) in shape and has a thin, black shell. The shell should be firmly closed when purchased, indicating that the mussel is living; may be purchased live, shucked, frozen, and canned; eaten raw, steamed, stewed, baked, pickled, smoked, stuffed, fried, and in soup; 20% of its weight is meat; meat is cream, beige, deep orange, tan colored and has a tangy, smokey flavor

Types:

Australia (*Mytilus planulatus*)

Bearded horse (*Modiolus barbatus*)—Atlantic, Mediterranean

Blue (*Mytilus edulis*)—Atlantic, Pacific

Common (*M. californianus*)—Pacific

Horse (*Modiolus modiolus*)—Europe

Mediterranean (*Mytilus galloprovincialis*)

New Zealand (*M. canaliculus*)

Composition: carbohydrate 3–5%; fat 1.4%; sodium 234 mg/3 oz raw (85 g)

See Part 2: Minerals, Food; Plant and Animal Poisoning

must Crushed grapes (juice, seeds and skin) or the juice from pressed grapes

mustard An annual vegetable whose seed is used as a spice or flour and leaves are used as a cooked vegetable. Seed is used whole, ground, or powdered (ground mustard, mustard flour, pulverized mustard; blend of black and white) or in prepared form (a paste made from mustard seed mixed with vinegar and spices and ground)

Types:

Black or brown mustard (*Brassica sinapoides nigra*)—seed of commerce; not suitable for salads; smaller, black-red seeds, used for making table condiment; pleasant aroma; ground color is dark brown; native to Egypt

Japanese (*B. japonica*)

Rape (*B. napus*)—sometimes used instead of white mustard for salad

White mustard (*B. alba* or *B. hirta*)—cabbage family; used for salad; pungent red-yellow seed; ground color is light brown; native to Asia

Wild—oily seed

Yellow or Chinese mustard (*B. juncea*; *Sinapis alba*)—native to south Asia

Varieties:

Black mustard of Sicily

Florida broad leaf

Large, black seeded varieties

Large, smooth-leaved

Southern giant curled

Tender green, mustard spinach

Available seed forms:

Mustard seed—small round seed of white or yellow mustard

Dry mustard—ground seed of several varieties

Yellow fine grind—light yellow; not more than 10–20 noticeable black specks/2 g; moisture 3–7%; protein 24–34.1%; ether extract 25.5–32.1%; carbohydrate 34–35%; fiber 6–7%; ash 4–5%

Black—total ash max. 5%; HCl insoluble ash 1.5%; protein 35%

Prepared composition: moisture 80%; 1 tsp, prepared = 5–9 g; 1 cal/g; sodium 65 mg/tsp (5 g)

Stain removal from cloth: scrape excess; soak in cold water with enzyme product; wash in hot suds; use cleaning fluid if necessary

Storage (seed): cool, dark, dry place

Storage (leaf): wash and drain; refrigerate in crisper or plastic bag; use within 1–2 days

See also **mustard sauce** and following entries

See Part 2: Essential Oils; Flavoring Agents, Natural; Flavor Ingredients, Taste and Flavor Type; Minerals, Plant or Animal Tissue; Minerals, Trace, Limits; Mustard, French; Nitrate, Vegetables; Planting Density; Spices, Microbial Content; Unsaponifiable Matter; Vegetable Plants; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetables, Classification; Vegetable Yields

mustard cabbage, dried See **chungking cabbage**

mustard cream dressing A dressing made from cream, lemon juice, mustard, pepper, and salt

mustard flour Ground seed of the mustard plant from which some of the oil (15–25%) and most of the hulls have been removed

Composition (powdered): protein 35%; total ash 6% max.

mustard greens (*Brassica juncea* var. *crispifolia*; *Sinapis arvensis*) Leaves of the mustard plant used much like spinach; young, tender leaves used raw as a salad; other leaves cooked (stewed) as a vegetable; the forms of Indian mustard in which the leaves are curled or frilled are often used. 15,000 seeds/oz; plant 1 oz seed per 100-ft row; 2 ft between plants in rows 1 ft apart; matures in 70 days

Species:

Black (brown)—smaller and more pungent

White—mild

Variety:

Florida Broadleaf—matures in 40 days; large, broad leaf

Fordhook—matures in 40 days; curled, fringed, dark green leaf

Green Wave—matures in 45 days; curled, dark green leaf

Indian

Southern Giant Curled—matures in 50 days; curled, bright green leaf

Tendergreens (Mustard Spinach)—matures in 28 days; heavy, thick, dark green leaf

Available in fresh, canned, and frozen forms

1 bu, fresh = 12 pounds (lb)

= 8–12 pt, frozen

1 pt, frozen = 1 to 1½ pounds, fresh

1 lb, fresh = 2 servings

1 cup, boiled and drained = 7.8 oz

Composition: moisture 92%; protein 2%; fat 0.3%; carbohydrate 4%

Storage: wash and drain well; refrigerate in crisper or plastic bag, 3–5 days See **Chinese mustard; mustard**

See Part 2: Food, Composition; Minerals, Food; Plant Foods, Composition; Vegetable Composition; Vegetable Cooking, Frozen

mustard, ground The entire seed including hull is ground

mustard oil An essential oil obtained from mustard seed (allyl isothiocyanate); iodine number 94–113; refractive index (15.5°C) 1.474–1.477; saponification number 171–176; sp. gr. 0.915–0.919

See Part 2: Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Titer, Fats and Oils; Tocopherols; Unsaturated Fatty Acids

mustard pickle Vegetables in yellow mustard sauce

mustard sauce A table sauce with a sharp, aromatic flavor; turmeric often added to provide color

English mustard—vinegar, white mustard, flour, salt, turmeric, cayenne pepper, clove buds, pimento, sugar, tapioca, black mustard, and white pepper

French mustard—vinegar, white mustard, flour, salt, turmeric, cayenne pepper, clove buds, and pimento; is milder than English

German mustard—vinegar, white mustard, flour, salt, turmeric, cayenne pepper, clove buds, pimento, sugar, tapioca, black mustard and white pepper, plus wine

Types:

Dusseldorf brown

English

French yellow

Holland dark brown

Salad yellow

Composition: sodium 212 mg/tbsp

mustard seed The tiny, smooth seed of the mustard plant

Types of seed:

Brown—some species pungent

Oriental (yellow)—some species pungent

Yellow—sharp flavor

Sources: Canada; U.S.

Forms:

Ground—whole, ground seed

- Powdered or flour—bran is removed and the heart of the seed is milled
Whole
- Composition: moisture 6.9%; protein 24.9%; fat 28.8%; carbohydrate 34.9%; fiber 6.5%; ash 4.5%
- mustard spinach** See **Chinese mustard**
- musty** A damp, cellarlike flavor often associated with poor ventilation
- muta-** A prefix meaning change
- mutagen** An agent that changes the genetic materials in a living cell so that a change in heritable characteristics results; a substance or stimulus that may cause a mutation or change in the character of a gene
- mutagenic agent** An agent that increases the rate of spontaneous mutation
- mutagenicity** The capacity to induce mutations
- mutation** A sudden, permanent, random, genetic change; a genetic change within living tissues that changes its characteristics
- mutere** A porridge or paste made from the flour of unripe banana or plantain
- mutschli** A semihard, full fruity flavored cheese made from cow's milk
- mutsum** A red, palm oil
- mutton** (*Ovis caprea*) The flesh from an ovine animal (sheep) that is older than the lamb age (12–14 months; 1–8 permanent incisors); has a pronounced taste
Age:
Yearling mutton—1–2 years old
Mutton—over 2 years old See **break joint**
See Part 2: Bone Age; Meat and Meat Products Composition; Minerals, Food; Riboflavin, Food; Specific Heat, Meat; Thiamin, Food; Vitamin A, Food
- mutton fat** Fat rendered from mutton tissue; melting point 49–51°C
See Part 2: Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Unsaturated Fatty Acids
- muttonfish** See **abalone**
- mutton grade**
Quality
Choice
Good
Utility
Cull
Yield
Yield grade 1
Yield grade 2
Yield grade 3
Yield grade 4
Yield grade 5
- mutton, yearling** Meat from sheep between 1 and 2 years old See **mutton**
- mu-uan** Cubes of country ham
- muzzle** Lower part of face and nose of a quadruped
- Mv** Symbol for the element mendelevium
- mwenge** A sorghum and green banana beer
- myc-** A prefix meaning fungus
- mycelia** Mold filaments; usually 1–2 μ m in diameter
- mycelium** A threadlike (rootlike) part of a mold microorganism; the vegetative body of a fungus consisting of filaments or hyphae See **fungi**
- mycella** A yellow cheese with green veining made from cow's and/or sheep's and/or goat's milk
- Mycobacterium tuberculosis**
See Part 2: Microorganism, Media
- mycobiologic agar**
See Part 2: Microorganism, Media
- mycological agar**
See Part 2: Microorganism, Media
- mycophil agar**
See Part 2: Microbiological Media
- mycoplasma (PPLO)** Pleural-pneumonia-like-organisms; tiny organisms, between bacteria and virus in size
See Part 2: Microorganism, Media
- mycorrhiza** The association of plant roots with fungus
- mycostat** A mold inhibitor
- mycotoxicosis** A disease caused by ingesting poisonous compounds produced by molds
- mycotoxin** A fungal or bacterial toxin (poisonous compound) produced by molds in foodstuffs and capable of causing health problems when the food is consumed. The term excludes alcohol and mushroom poisoning and various poisonous gases that are known fungal metabolites. Classes of greatest concern in the food area are:
Aflatoxin
Ergot alkaloids
Ochratoxins
Patulin and penicillic acid
Trichothecenes
Zearalenone
See Part 2: Molds, Mycotoxins
- myel-** An affix that means marrow
- mykonos loucanica** A moist, uncooked Greek sausage made from coarsely chopped, medium seasoned pork and stuffed into a sheep casing
- myo-** A prefix meaning muscle
- myoblast** An embryonic cell that will be transformed into muscle fiber. Spindle-shaped cells with centrally located, elongated nuclei that constitute the actively dividing stemline of the muscle tissue but, in general, do not contain contractile proteins. Myoblast align into chainlike configurations with the long axis of muscle tissue and the plasmalemma fuse forming large (several hundred) multinucleated cells
- myofiber** A mature, multinucleated (nuclei are peripherally located), striated, muscle cell. The striations are due to the alignment and registration of sarcomeres. Length varies from less than 1 mm to more than 4 cm; diameter from 10–100 μ m

490 myofibril

myofibril A subunit of a muscle fiber; a bundle of myofilaments

See Part 2: Myofibrillar Proteins of Muscle

myofilament The contractile element of a muscle; a subunit of a myofibril; an array of molecular chains (thin and thick filaments)

myogen The glycolytic enzymes found in the sarcoplasm of muscle tissue

myoglobin A respiratory pigment responsible for the color of muscle; a sarcoplasmic protein

See Part 2: Meat Pigment; Nitrate, Meat Curing

myology The study of muscles

myosin A thick filament that is active in muscle contraction See **actomyosin**

See Part 2: Myofibrillar Proteins of Muscle

myotome A fish muscle segment located between the vertebrae

myotube Immature, multinucleated (nuclei are centrally located), muscle cells; long, striated fibrils (first indication of contractile apparatus) become visible in the peripheral cytoplasm

myrcia Oil of bay, used in manufacturing bay rum. A yellow to dark brown, volatile oil obtained by steam distillation of the leaves of *Pimenta acris kostel*; optical rotation 0° to -3°; refractive index 1.507-1.516 at 20°C; sp. gr. 0.950-0.990 g/ml

myriagram A measure of weight

1 myriagram = 10,000 grams (g)
= 22.046 pounds (avdp; lb)
= 10 kilograms (kg)
= 10 liter (l)

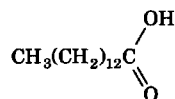
myriameter

1 myriameter = 10,000 meters (m)
= 10 kilometer (km)

myriawatt

1 myriawatt = 10 kilowatt (kW)

myristic acid (tetradecanoic acid)



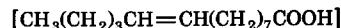
A 14-carbon, saturated acid found in butter, wool fat, vegetable fat (e.g., coconut oil), and nutmeg; saponification value 242-250. Used in food as a defoaming agent and to manufacture other additives

See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids and Their Properties; Fatty Acids; Fatty

Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Oils, Seed and Fruit; Saturated Fatty Acids; Wheat, Fatty Acids

myristica oil Nutmeg oil See **nutmeg oil**

myristoleic acid



An unsaturated fatty acid occurring in some seed fats and fish oil

See Part 2: Fatty Acids, Fats and Oils; Fatty Acids and Their Properties; Unsaturated Fatty Acids

myrrh An odorous resin found in an Arabian plant

See Part 2: Essential Oils

myrtille A brandy distilled from fermented bilberries (*Vaccinium*)

myrtle (*Myrtus communis*) An aromatic, evergreen shrub that is used for flavoring

Parts Used:

Berry—pepper flavor in stew

Branches—to smoke meat

Leaves—flavor in meat; substitute for bay leaves

Seed—used as an herb

myrtle oil An essential oil steam-distilled from the leaves and stems of European myrtle. Used as a food flavoring agent; sp. gr. 0.984-1.015

Storage: full, tight, glass container in a cool, dark place

See Part 2: Essential Oils

mysliwaka A dry, uncooked, triple-smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into a sheep casing

mysöst A brown, rectangular (250 g-8 kg), sweet (high lactose), semihard Scandinavian cheese with a mild caramel flavor that is made from the condensed whey of goat's and/or cow's milk; sometimes flavored with cinnamon, cloves, or cumin

mysöst cheese (primöst) A Scandinavian cheese that has a light tan color, soft, creamy, mild flavor, and a distinctive, sweet taste; made from whole milk, cream, or whey produced in making ordinary cheese. It is unripened and sold in cubical or cylindrical shape, wrapped in foil

Composition: moisture 14%; protein 11%; fat 30%

See Part 2: Cheese Characteristics; Milk and Cheese Composition

myx- A prefix meaning mucus

myxomatosis An infectious viral disease of rabbits that is often fatal

N

N 1) The symbol for the element nitrogen. 2) The symbol for Avogadro's number. 3) See **normal**

n See **nano**

Na The symbol for the element sodium (Latin *natrum*)

naan See **nan**

naartje A kind of tangerine that is grown in South Africa See **tangerine**

nabemono Dishes served in a pot, boiled or broiled near the table

NACEPE National Association of Creamery Proprietors and Wholesale Dairymen

nacre See **cultured pearl**; **mother**

NADA New animal drug application, issued by the Food and Drug Administration (FDA)

naem A fermented, semidry sausage made from pork or beef

nagelkazen A Dutch cheese made from skimmed milk and flavored with cloves and cuminseed

Nahe A region in Germany, south of the Rhine, that produces fresh, racy wines made mostly from Riesling grapes

nail 1) A measure of length

1 nail = 5.715 centimeters (cm)

= 2.25 inches (in.)

= $\frac{1}{16}$ yard (yd)

2) A slender fastener, usually metal

Types:

Aluminum roofing nail—made from aluminum with plastic washers (not steel and lead)

Barbed shank—resists pulling; used in creosote-treated and uncured wood

Box nail—thinner than a common nail

Casing nail—larger head than finishing nail

Concrete nail—straight, fluted, hardened shank

Drywall nail—sharp point; cupped head

Duplex nail—double-headed; for temporary fastening

Finishing nail—slender; small head (e.g., 2-in. nail has $\frac{1}{8}$ -in.-diam. head)

Galvanized—has a coating that resists rust and rust stains

Hot-dipped (thicker coating)

Electroplate (thinner coating)

Hardboard siding nail—extra-stiff shank

Ringed shank—resists pulling; used in creosote-treated and uncured wood

Spike—thicker shank than common nail

Threaded (spiral) shank—resists pulling; used in creosote-treated and uncured wood

Wood siding nail—blunt point

Common nail size (penny)	Length (in.)	Gauge
4d	1.5	12.5
5d	1.75	12.5
6d	2	11.5
7d	2.25	11.5
8d	2.5	10.25
9d	2.75	10.25
10d	3	9
12d	3.25	9
16d	3.5	8
20d	4	6
30d	4.5	5
40d	5	4
50d	5.5	3
60d	6	2

naja Yogurt

nakki A moist, smoked Finnish sausage made from mildly seasoned beef and pork stuffed into 22 mm sheep casing

NAL See **National Agricultural Library**

nalim (burbot) A food fish found in Russia

nalivka A brandy-based liqueur

nalzov A camembert-type cheese made from cow's milk

NAM National Association of Manufacturers

namage See **tofu**

namasu A vinegar sauce or marinade made from carrots, cucumbers, and turnips

namaycush (Salvelinus namaycush) Lake trout

nam budu A fish sauce made from shrimp

nam Third grade; used for grading food

nam khao A rice wine

nam khoei A fish sauce made from shrimp

NAMP National Association of Meat Purveyors

nam pak A fish sauce

nam plah (nam pla) A condiment that is a salty fish sauce made from cured fish (*Cirrhinus*, *Rostrelliger*, or *Stolephorus* spp.)

nam prick A fermented, yellow-brown, salty (20–25%) condiment made from fish paste

nam-som-sai-chu A vinegar made from fruit juice

nam-tau-mao A sweet, cloudy, white wine made from palm sap

nan (naan) A pocketed, leavened, flatbread that may be filled with other ingredients

Nancy Hall A moist, sweet variety of sweet potato

nangka A tree; the young fruit is boiled or roasted like chestnuts

nangkaboom A tree that bears fruit that is similar to jack fruit and used in soup

Nanking duck A speckled, brownish gray, egg-laying (300 eggs per year) duck from China

nanny goat A female goat

nano- (n) The prefix for a quantity one billionth (10^{-9}) the size of the base unit

nanogram (ng) A measure of weight (one billionth of a gram)

1 ng = 10^{-9} gram (g)

nanometer (nm) A measure of length

1 nm = 10^{-9} meter (m)

See **millimicron**

nantais A medium-flavored, semisoft, French cheese

Nanyang A breed of draft cattle that is red with white or gray spots and with a small, cervicothoracic hump; originated in Honan (Henan), Hupen (Hubei), and Hopeh (Hebei) provinces of northeastern China

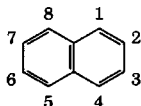
naoussa A red wine

napa See **Chinese cabbage**

napareuli A white or light red wine from the Soviet Union

naphtha (petroleum benzin; petroleum ether) A low-boiling fraction of petroleum, primarily pentanes and hexanes, used as a solvent and source of synthetic natural gas See **petroleum**

naphthalene ($C_{10}H_8$) A bicyclic hydrogen derived from coal tar and petroleum fractions; used as an antiseptic and insecticide, especially for moths



Napierian logarithm See **logarithm, base e**

napoleon Layers of puff pastry filled with custard or pastry cream

Napoleon brandy Brandy that was made during the time of Napoleon

nara senkel Sweetened, pickled cucumber

narazuke Uri melons pickled in sake

narcissus A bulbous flowering plant; the bulb is sometimes used as food

naireli A sweet, cloudy, white wine made from coconut-palm sap

narezushi Dark, salty, fermented fish paste with rice

Narragansett A variety of alfalfa

narrow brown leaf spot A fungal (*Cercospora oryzae*) disease of rice

Control: plant resistant varieties and early-maturing cultivars.

narrow casings Sausage casings of specific widths taken from hogs, beef, sheep, etc.

Narrow-end middle—natural casings used in the meat trade; from the first part of the large intestine of beef

Narrow hog casing—29–32 mm width

Narrow medium hog casing—32–35 mm width

See **Part 2: Casings, Hog; Casings, Hog and Beef; Casings, Sheep; Casings, Terms**

NAS National Academy of Sciences

nasal Sheep's, cow's, or water buffalo's milk that is low in fat

nascol A Sardinian wine

naseberry (*Achras zapota*) A tree that produces a gray-brown, lemon-shaped fruit with a sweet, red-yellow pulp

naseberry plum See **sapodilla**

nasha A sour porridge made from sorghum or millet

NAS-NRC See **Committee of Food Protection of the National Academy of Sciences-National Research Council**

nastoika A brandy-based liqueur

nasturtium (canary creeper; Indian cress; Mexican cress; *Tropaeolum majus*; *T. minus*) A climbing plant; the leaves (similar to watercress) are used to flavor salads; the flowers have a spicy flavor and the petals are used to flavor salads and vinegar; the immature fruits or buds are packed in vinegar and used as a substitute for capers; the seeds (hot) are ground and used like mustard; the tuberous roots (some types are yellow and some are red) are used like parsnips.

Varieties: Dwarf Mixed; Golden Globe; Scarlet Gleam; Tall Mixed

nata A cream-colored to white, gelatinous film that grows on the surface of coconut, pineapple, sours of sugar cane, and other fruit waste

nata de coco A cream-colored to white, gelatinous film that grows on the surface of coconut water or coconut skim milk

nata de guanabana A cream-colored to white, gelatinous film that grows on the surface of the juice of soursop, or guanabana

nata de piña A cream-colored to white, gelatinous film that grows on the surface of juice from pineapple trimmings

National Academy of Sciences (NAS) A private society that was established in 1863 to provide advice to the federal government See **National Research Council**

National Agricultural Library (NAL) See **Science and Education Administration**

National Association of Creamery Proprietors and Wholesale Dairymen (NACEPE) An English organization that grades cheese

national farm program acreage The estimated number of harvested acres needed to meet domestic and export use and to accomplish any desired increase or decrease in carryover

national food supply The amount of food accessible to the consumers of a given country during a given period

National Formulary (NF grade) A designation of a grade of chemical purity that meets specifications of the National Formulary *See also grade*

National Health and Nutrition Examination Survey (NHANES) Primarily a health survey that measures relationships between health and nutrition variables

National Livestock and Meat Board An organization to promote use of livestock and meat (444 N. Michigan Avenue, Chicago, Illinois 60611)

National Research Council (NRC) A branch of National Academy of Sciences (2101 Constitution Ave. NW, Washington, DC 20418) that was established in 1916 as the working arm of the National Academy of Sciences

national residue program A Food Safety and Inspection Service (FSIS) of USDA program that, among other activities, is responsible for determining if residues are present in meat and poultry

National School Lunch Act of 1946 The law that authorized child nutrition programs *See child nutrition programs; national school lunch program*

national school lunch program A program that helps to provide nutritious lunches to the nation's school children (in some cases for free or at reduced cost) *See child nutrition programs; National School Lunch Act of 1946*

national weighted-average market price The average price received by producers for a commodity, weighted to account for the amounts marked at different prices at different locations

nationwide food consumption survey (NFCS) Measures direct food and nutritional intake; the survey is taken every 10 years.

native 1) An unbranded hide. 2) Animals from the corn belt or northern farms. 3) Of vegetables, grown in the United States

native grass Grass that is indigenous to an area

native protein A protein that is not denatured

NATO North Atlantic Treaty Organization

natron Sodium sesquicarbonate (an alkaline salt)

natto A fermented, cheeselike, soybean product; strong-flavored, dark brown soybeans in a dark brown paste (various degrees of dryness); looks like peanut brittle made from whole soybeans

natur Indicates an unsweetened wine

natural cheese Unblended cheese whose flavor depends on type of milk, bacteria, seasoning, and ripening technique. It is made from milk solids (curd) that have been separated from milk (liquid portion, whey) by rennet and/or bacterial culture.

natural color Any of several colors that occur naturally in plant and animal tissue; a few are used as additives in food

natural food Unrefined food; food growing wild; food that has not been treated with artificial chemicals

natural gas Hydrocarbon gas associated with petroleum; used as fuel and in the manufacture of ammonia and other petrochemicals

Typical analysis: methane (CH₄) 83.4% by volume; ethane (C₂H₆) 15.8% by volume; nitrogen (N₂) 0.8% by volume

See Part 2: Fuel, Heating Value

natural logarithm *See logarithm, base e*

natural pearl A pearl produced without artificial addition of a foreign substance to the oyster

natural spice A spice that is whole, cracked, or ground

nature Indicates an unsweetened wine

nature-identical flavoring substance A flavoring substance isolated from an aromatic raw material by physical methods, e.g., citral from oil of lemongrass

navaga A food fish

Russia and Europe—*Eleginus navaga*

Russia and the northwestern Pacific—*E. gracilis*

naval stores *See rosin; spirit of turpentine*

navarra A red wine

navel (plate; short plate) The lower portion of the rib cage, between the 6th and 12th ribs

Navel orange A variety of seedless California orange that has a navel end and is strongly segmented; has poor juice but excellent eating properties; has firm pulp, thick skin; skin, pulp, and juice are bright in color; in season November to May

navy bean *See bean, navy*

naw-mai-dong Pickled, young bamboo shoots (*Bambusa arundinacea*)

nazareth blue A blue cheese made from cow's milk

Nb The symbol for the element niobium

NB *Nota bene* (note well)

N broth *See Part 2: Microorganism, Media*

Nd The symbol for the element neodymium

NDF (neutral detergent fiber) An analysis that separates material into cell contents and cell wall components

NDGA *See nordihydroguaiaretic acid*

ndila molo Steamed, fermented, rice balls

NE Level not established

Ne The symbol for the element neon

neapolitan (harlequin; neapolitan ice cream) A brick-shaped block of plain or fruit ice creams (and/or ices), usually two to four flavors and colors, placed in a brick mold and hardened

neapolitan medlar *See azarole*

neat 1) An animal of the bovine type. 2) Of a material, undiluted or unmodified, e.g., neat whiskey

494 neat's-foot oil

neat's-foot oil An oil obtained by pressing the shin bones and feet of cattle; used for waterproofing and fatliquoring leather

Acid number—13.35

Iodine number—45–75

Specific gravity 20°/4°C—0.9158

See Part 2: Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Specific Gravities, Fats and Oils; Unsaponifiable Matter

Nebbiolo 1) An Italian variety of black grapes. 2) A light, red wine

Nebraska currant See **buffalo berry**

neck The connection between the head and the trunk, or body

neck bone See **cervical vertebrae**

See Part 2: Beef Chuck; Bone; Lamb, Wholesale Cuts; Pork Carcass, Retail Yield; Pork Wholesale Cuts; Pork Yield; Veal Wholesale Cuts

neck ring parting line A horizontal mark at the bottom of the neck of a glass container, resulting from the matching of the neck ring part and the body mold part

neck rot See **thielaviopsis stalk rot**

neck slice See Part 2: Lamb Cuts

necropsy Postmortem examination

necrosis The pathologic death of a cell (or group of cells) in contact with living tissue

necrotic Of or pertaining to the localized death of cells in contact with living tissue

nectar 1) A sweet secretion of plants that is the portion of flowers that is made into honey; plant honey. 2) An excellent beverage; any good beverage. 3) A beverage made from sweetened or unsweetened fruit juice, pulp, and some of the water used in cooking the fruit; it is pasteurized after sealing.

nectarberry A sport of the lowberry

nectarine (*Prunus persica nectarina*) A small cling or freestone peach that has firm flesh (yellow, white, or red), a smooth skin [i.e., no pubescence (fine short hairs), a single-gene recessive], and a rich flavor; the skin has an orange-yellow or greenish ground color, the rest being red. Average yield 120 lb/tree; bearing age 3–4 yr; 8–10 spray applications; useful life 12 yr; pH 3.9; may be used fresh, canned, dried, or frozen; count per No. 2½ can is 20.

Variety (in order of ripening)	Fruit				
	Size	Color	Flesh	Stone	Tree
Very early					
Firebrite					
Sunred*	Small	Highly colored	Yellow; firm	Semifree	
Armking†	Med.	Yellow, overlaid red	Yellow	Semifree	Vigorous
May Grand	Med.	Yellow, overspread red	Yellow	Semifree	Med. vigor
Early					
Red June	Med.	Red	Yellow	Free	
Early Sun Grand	Med.	Red blush	Yellow; firm	Free	Vigorous
Independence	Med.	Red blush	Yellow; firm	Cling	Productive
Nectared 4	Large	Yellow, red blush	Yellow	Semifree	Productive
Early-midseason					
Sun Grand	Med.	Yellow, red blush	Yellow	Free	Med. vigor
Flavortop	Large	Yellow, red blush	Yellow; excellent flavor	Free	Vigorous; moderately productive
Midseason					
Delicious	Large	Yellow, mottled red	Yellow; firm	Free	Vigorous; productive
Red Gold	Med.-large	Yellow, overspread red	Yellow; firm	Free	Vigorous
Nectared 6	Large	Red over yellow	Yellow	Free	Productive
Fantasia	Large	Yellow, red blush	Yellow; firm	Free	Vigorous; moderately productive
Red Grand	Large	Red	Yellow	Cling	Vigorous; sometimes light producer
Sunglo			Yellow	Semifree	
Le Grand	Large	Green-yellow, red blush	Yellow	Cling	
Late Le Grand	Large	Green-yellow, red blush	Yellow; firm	Cling	
Bob Grand	Large	Highly colored	Yellow; firm	Cling	Large; productive

(Continued)

Variety (in order of ripening)	Fruit			Stone	Tree
	Size	Color	Flesh		
Late-midseason					
Gold King	Large	Green-yellow and red	Yellow; firm	Cling	
Late					
Regal Grand	Large	Yellow, red blush	Yellow; firm	Cling	Large; productive
Flamekist	Large	Yellow, red blush	Yellow; firm; good flavor	Cling	Large; productive
September Grand	Large	Yellow, red blush	Yellow; firm	Cling	Large; productive
Autumn Grand	Large	Yellow, red blush	Yellow; firm	Cling	Large
Red Gold			Yellow	Free	Hardy
Flavor-top			Yellow	Free	
Fairlane					

*Chilling requirement 300 hours

*Short chilling requirement

Canned styles: halves, peeled; halves, unpeeled

1 cup, sliced = 3 med. nectarines

1 med. nectarine = $\frac{1}{4}$ lb, peeled, pitted, and sliced

To ripen: Keep in open air, at room temperature and out of the sun.

Storage: When ripe, refrigerate uncovered; use in 3-5 days.

See **brown rot; scab**

See Part 2: Fruit, Availability; Fruit Classification; Fruit Storage; Minerals, Food

need date The date when an item is required for its intended use

neem oil See Part 2: Fats and Oils, Physical and Chemical Properties; Tocopherols

negotiable marketing certificates Marketing certificates that can be exchanged for cash or commodities See **marketing certificates**

negotiation The process by which a buyer and a vendor agree to the conditions surrounding the purchase of an item or service

negru de purkar A fruity, dry, red wine

Neikiang A breed of prolific, black, narrow-bodied pigs from Szechwan (Sichuan) Province, central China

Neisseria See Part 2: Microorganism, Media

Nellore A strain of Brahman cattle

nelma (*Stenodus leucichthys nelma*) A food fish used in the Soviet Union

nematode Any of the small, round worms of the class or phylum Nematoda, including unsegmented threadworms and roundworms; nematodes may be parasites or may be free-living in water or soil; they have a high tolerance for chlorine and can thus protect some ingested microorganisms from this chemical. See **root-knot nematode**

nemes kadar A soft, deep-rosé, Hungarian wine

nemes kadarka A Hungarian red wine

neo- A prefixed used to indicate new

neodymium (Nd) A rare earth element of the lanthanide series; Group IIIB of the Periodic Table; at. no. 60; at. wt. 144.27; oxidation state +3; electron configuration 2-8-18-22-8-2 orbit K L M N O P

neomycin sulfate A drug that is used to treat enteritis and dysentery

neon (Ne) An inert gaseous element; at. no. 10; at. wt. 20.183; oxidation state 0; electron configuration 2-8 orbit K L

neonate A newborn

neobi A cloudy, alcoholic wine made from sugar-cane juice and usually consumed fresh

neoplasia The formation of cancer tissue

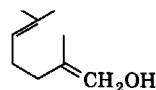
neoplasm A new and abnormal growth of tissue, e.g., a tumor

nepeta oil See Part 2: Essential Oils

nephelometric analysis An optical analysis by which concentration is determined by comparing the intensity of light reflected from suspended particles with that of a known concentration of the same particles

neptunium (Np) A synthetic radioactive element of the actinide series; Group IIIB of the Periodic Table; at. no. 93; mass number of the most stable isotope 237; oxidation states +3, +4, +5, +6; electron configuration 2-8-18-32-22-9-2 orbit K L M N O P Q

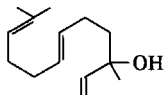
nerol



Used as a roselike flavoring agent in food; sp. gr. 0.874-0.880

Storage: full, tight, glass container in a cool, dark place

nerolidol



Used as a straw-colored, floral-like flavoring agent in food; sp. gr. 0.870–0.882

Storage: full, tight, glass container in a cool, dark place

neroli oil (orange-flower oil) An essential oil distilled from citrus flowers and used in flavorings
See Part 2: Essential Oils

nerve A fiber (part of a neuron) that transmits sensations and motor impulses

nervine A substance used to relieve tension or excitement

nessel A soft-cured English cheese made from whole cow's milk with rennet added

nesselrode A frozen dessert with fruit and nuts and often rum

net cash Payment for goods sold, usually within a short period of time, with no deduction allowed from the invoice price

net dietary protein calories percent (NDpCal%)
The percentage of the total metabolizable calories that is supplied by the utilizable protein content of a diet

net dietary protein value (NDpV) The utilizable protein content of a diet, e.g., the product of the crude protein content and the operative net protein utilization

net energy The energy that is available for growth, work, and production after digestion and metabolism

netetou A type of dawadawa

net price The price after all discounts, rebates, etc. have been allowed

net protein utilization (NPU) The proportion of nitrogen intake that is retained; the product of biological value and digestibility

$$\text{NPU} = \frac{[(\text{body N content with test protein}) - (\text{body N content, protein-free diet})]}{\text{total N intake}}$$

net protein value (NPV)

$$\text{NPV} = (\text{biological value}) \times (\text{digestion coefficient})$$

netted melon See **cantaloupe**; **melon**; **musk-melon**

netting A veinlike network of lines running randomly across the rind of some melons

nettle (stinging nettle; *Urtica dioica*; *U. urens*)
A weed; the shoots and leaves are used as spinach, in salads, and to make beer; the leaves are ground or chopped and consumed raw, stewed, or steamed

net weight The weight of food without packaging material

net worth The difference between the value of property that a person owns and the debts that he or she owes

neufchâtel cheese (bond; bondon; bondore; bondou; boudart; coeur de Bray; gournay; malakoff; No. 2 cream cheese) A soft, white, mild, creamy French cheese that is made from whole milk and is higher in moisture and lower in fat than cream cheese; it is foil-wrapped in rectangular portions; a soft, white cheese from France that may be eaten fresh or ripened
Composition: moisture 55–63%; protein 9–18%; fat 23–25%; carbohydrate 2–3%; fiber 0%; ash 1–3%; salt 1% (sodium 113 mg/oz)

Storage: refrigerate, covered or tightly wrapped; use within 2 weeks.

See also **cream cheese**

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

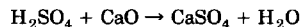
neurospora culture agar See Part 2: Microorganism, Media

neusohl A cheese made from sheep's or goat's milk with rennet added

neutral 1) Neither acidic nor basic, i.e., pH 7.0.
2) Having neither positive nor negative electric charge, e.g., a neutron

neutrality An absence of interaction between two populations living together

neutralization 1) A reaction between appropriate amounts of an acid and a base that yields a neutral product (salt and water), e.g.,



2) To subdue a taste or odor with another stimulus
See Part 2: Margarine Production

neutralizer A substance that is used to change the acid-alkaline balance of a food

neutralizing value See Part 2: Liming Materials

neutral lard Lard rendered slowly (at 126°F) from back and leaf fat

neutral red ($\text{C}_{15}\text{H}_{17}\text{ClN}_4$) A pH indicator with a range of 6.8–8.0; it is red in acid and yellow-brown above pH 8; 0.1% in 60% ethyl alcohol

neutral spirits A rectified spirit used as a base for gin, liqueurs, and vodka See **silent spirit**

neutron A neutral particle that is present in all atomic nuclei except (common) hydrogen; charge 0; weight 1.675×10^{-24} g; mass 1.0086 u; diam. 2.8×10^{-13} cm
See Part 2: Constants, Fundamental

neutrophil A white blood cell that engulfs and kills pathogens

newberry A hybrid blackberry

newburg 1) A sauce made with cream and sherry. 2) Cooked lobster served in a cream sauce

Newburg, à la A method for preparing seafood that includes sautéing in butter, sherry, and paprika and heating in cream (sometimes with egg yolk)

newburg sauce A lobster sauce made from butter, cream, sherry or other wine, brandy, and egg yolk and flavored with paprika and salt

Newcastle's disease A contagious viral disease of poultry that affects the respiratory and nervous systems; immunization is available

new cocoyam See **tannia**

new england (berliner) A sausage made from coarsely cut pork and a little beef

new england style sausage See **berliner**

New Hampshire An American class of chickens that lays a brown-shelled egg; plumage color is chestnut red.

Female—neck chestnut red; tail feathers black and red

Male—head reddish; neck and back golden; tail feathers black (some edged in red)

See Part 2: Poultry Breeds and Varieties

New Orleans chicory A blend of South American coffee and roasted chicory root

New Orleans roast See **coffee**

new potatoes Potatoes that have been dug before reaching full maturity

new process (solvent process) The extraction of oil from seed by a solvent

new-process cornmeal See **cornmeal, new-process**

newsback See **chipboard**

newton (N)

1 N = 10⁵ dynes [dyn (10⁵ = 100,000)]

New York dog (frank) (Not a New York City dog) A frankfurter served with bacon and cheddar cheese

New York dressed duck An uneviscerated duck with the feathers removed

New York ice cream See **ice cream, French**

New York lettuce A variety of head lettuce that is larger and greener than iceberg See also **lettuce**

New York round A wholesale cut of beef round from which steaks are cut

See Part 2: Beef Rounds

New York strip steak See **strip steak**

New York style See **Eastern style**

See Part 2: Beef Rounds

New York style shoulder A pork shoulder that is trimmed and skinned, with the neck bone and back removed; about 16% of pork carcass (head and leaf fat on)

New Zealand lamb Usually smaller than U.S. lamb; usually marketed frozen

New Zealand spinach (ice plant; *Tetragonia expansa*) A large (2 ft or more) plant, not related to common spinach that is grown in hot climate as a substitute for spinach; the bright green leaves continue to grow in hot weather and look, taste, and are used like spinach.

nezhinskaya ryafina A brandy distilled from fermented rowan berries (*Sorbus* sp.)

NF See **National Formulary**

NFDMS See **dried skim milk; nonfat dry milk solids**

NFE See **nitrogen-free extract**

NFMOA National Fish Meal and Oil Association

NG No good

ngam-pya-ye A fish sauce made from shrimp

nga ngapi A yellow-brown, salty, fermented condiment made from fish paste

nga-pi A yellow-brown, salty, fermented, condiment made from fish paste

nga-pi serissa A yellow-brown, salty, fermented, condiment made from shrimp paste

ng ka py A spirit-based alcoholic beverage; a liqueur

ngo mon A red, palm oil

nguoc mam A fish sauce

nguyen chat A fish sauce

nham A fermented, uncooked, seasoned, semidry sausage made from beef or pork with rice that is wrapped in banana-leaf packets and steamed before eating

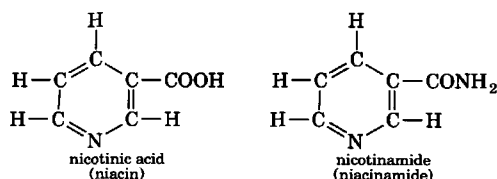
NHS National Health Service

Ni The symbol for the element nickel

niacin (B₃; nicotinic acid; p-p factor) A water-soluble (B group) vitamin; deficiency causes a disease called pellagra (in humans) or black tongue (in dogs). Niacin functions in the oxidation-reduction system in cells.

Sources: liver; kidney, meat; yeast; cereals; legumes; wheat germ; enriched foods; green and leafy vegetables; chicken breast and peanuts

Deficiency symptoms: loss of appetite and weight; skin eruptions



Used as a food additive to maintain or improve nutritional value and as a nutrient or dietary supplement; mp 234–238°C (nicotinic acid), 128–132°C (nicotinamide)

Storage: well-closed container

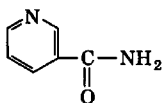
See **nicotinic acid**

See Part 2: Beans, Peas, and Nuts; Beef, Percentages of Daily Recommended Allowances; Cereal Enrichment; Cereal Nutrient Content; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish, Composition; Food, Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Lamb, Percentages of Daily Recommended Allowances; Lemon Juice, Composition; Lime Juice, Composition; Macaroni and Noodles, Composition; Meat Composition; Meat, Nutritive Value; Niacin; Niacin, Daily Recommendations;

498 niacin (B₃; nicotinic acid; p-p factor)

Olives and Pickles, Composition; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Sausage Composition; Sausage, Nutritive Value; Seed, Chemical Composition; Soups, Composition; Sugars and Sweets, Composition; Sweet Potato, Nutritive Value; Tomato and Tomato Products, Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Vitamin Retention, Meat; Vitamins; Vitamin Sources, Functions, and Stability; Wheat Products, Composition; Wheat, Vitamins

niacinamide (nicotinamide; vitamin B₃)



A food additive used to maintain or improve nutritional value and as a nutrient or dietary supplement
Storage: tight container

See **niacin**

niacinamide ascorbate A complex of ascorbic acid and niacinamide; used as a food nutrient or dietary supplement; melting range 140–145°C
Storage: tight, light-resistant container

niacinamine See **niacinamide**

nib 1) A small lump, e.g., of a seasoning. 2) Cracked cacao seeds; cotyledon

nibid Wine

nickel (Ni) A metallic element; at. no. 28; at. wt. 58.71; Group VIII of the Periodic Table; oxidation states +2, +3;
electron configuration 2–8–16–2
orbit K L M N

used as catalyst in the hydrogenation of vegetable oils; relatively insoluble in food; there is no evidence that nickel will migrate to food in harmful amounts from nickel utensils.

See Part 2: Normal Solutions

nickel silver An alloy of copper, nickel, and zinc; slightly soluble in food

niçoise Describes food prepared with tomatoes and garlic

niçoise salad A salad made from anchovies, black olives, dressing with onions, french dressing, hard-boiled eggs, lettuce, and tuna

nicotinamide (niacinamide; vitamin P-P) Has the same function as niacin See **niacin**; **niacinamide**

See Part 2: Cereal Fortification; Cereals, Vitamin and Mineral Content; Vitamins

nicotine (C₁₀H₁₄N₂) An alkaloid derived from tobacco and used as an insecticide and fumigant; it is poisonous.

nicotinic acid See **niacin**

See Part 2: Cheese Composition; Cheese, Vitamin Content; Flour, Extraction Rates; Milk and Milk Products, Vitamin Content; Milk Composition; Nicotinic Acid, Food; Vitamins; Wheat, Parts of Grain, Vitamins

nidelchas A camembert-type cheese made from cow's milk and shaped into a thick disk

niederungskäse A hard cheese made from cow's milk with rennet added

nieheim A German cheese made from sour milk

nierstein A white wine

nierworst A moist, cooked, smoked Dutch sausage made from fine- or coarse-chopped, medium-seasoned beef and pork, with coarsely chopped kidney, stuffed into beef or artificial casings

Nigahi A breed of black pig with large ears, a sway back, and a large belly; found in south-central China

nigari A natural derivative of seawater; it is used in the manufacture of tofu to form the curd in a cooked puree of soybeans and water and is responsible for the cheeselike consistency of tofu. See **tofu**

nigella (devil-in-the-bush; fennel flowers; *Ranunculus*) A plant that produces pungent, aromatic seeds that are used as a substitute for pepper

niger-seed oil See Part 2: Fats and Oils, Physical and Chemical Properties

night-blindness Difficulty in seeing in dim light, due to vitamin A deficiency

nightshade Any of several poisonous plants; some varieties have edible leaves that are eaten like spinach
See Part 2: Poisonous Plants

nigisu (*Glossanodon semifasciatus*) A food fish that is used in Japan

NIH National Institutes of Health

nihon-shu A rice wine

niku Meat

Nilla Wafer

1 cup crumbs = 30 wafers

See **vanilla wafer**

nimono Boiled meat and vegetables

Ningan A breed of pig found in northeastern China; black with white points

Ningsia Black Sheep See **Hei**

Ningsiang A prolific breed of pig found in Hunan Province, south-central China; black with white marking; has small lop ears, a sway back, and a sagging belly

ninhydrin test A test for amino acids with a free amino and a free carboxyl group; this includes all amino acids except proline and hydroxyproline; a deep blue color appears when ninhydrin is added to these amino acids.

See Part 2: Protein and Amino Acid, Color Reactions

niobium (Nb) [Also called columbium (Cb)] A metallic element; at. no. 41; at. wt. 92.91; Group VB of the Periodic Table; oxidation states +3, +5;
electron configuration 2–8–18–12–1
orbit K L M N O

niolo A strong-flavored French cheese made from sheep's or goat's milk

nip A small quantity of liquor; $\frac{1}{4}$ bottle

nipa palm See **palm**

nipplewort A dandelion-type weed that can be used in salads or cooked

nippy Describes a sharp, biting or cold sensation

nishasta Fermented bran of wheat or rice

nisin A naturally occurring antibiotic (derived from *Streptococcus lactis*) that may be added to food in some countries

nisinic acid See Part 2: Fatty Acids and Their Properties

nisterull salamismak A semidry, cooked, smoked Norwegian sausage made from coarsely chopped, heavily seasoned beef and pork not stuffed into casings

niter 1) The insoluble residue of maple sap. 2) Potassium nitrate

nitramide sulfanitrane A drug that is used to improve growth and feed efficiency

nitrate A salt of nitric acid; a substance containing an NO_3^- ion; used in meat curing (serves as an oxygen source and prevents the growth of anaerobic bacteria); should not exceed 500 ppm (0.05%) in the finished product; sodium or potassium nitrate, 7 lb/100 gal pickle (10% pump); generally, now used only in dry-cured meat

See Part 2: Nitrate, Meat Curing; Nitrate, Vegetables; Water Drinking Standards

nitrate broth A medium used to grow *Bacillus cereus*

nitrate of soda (sodium nitrate) (NaNO_3) A fertilizer material; 16-0-0; basic in nature; each pound is equivalent to 0.29 lb dolomitic limestone.

See Part 2: Fertilizer Materials

nitrate poisoning Caused excessive quantities of nitrate (NO_3); converted by bacteria to nitrite (NO_2), which interferes with the oxygens carrying ability of the blood

nitrate cake (sodium acid sulfate; sodium bisulfate; sodium hydrogen sulfate) (NaHSO_4) Used as a food and feed additive

nitric acid (aqua fortis) (HNO_3) Used in the manufacture of fertilizer; bp 86°C ; mol. wt. 63.02; 630 ml 71% HNO_3 diluted to 10 l gives an approximate normality of 1.00

Commercial strength		Percentage by weight	Specific gravity	Normality
mol/l	g/l			
15.99	1008	71	1.42	—
—	—	69	1.409	15.4
14.9	938	67	1.40	—
13.3	837	61	1.37	—

See Part 2: Concentrations of Commercial Strengths of Acids and Bases; Nitric Acid Solution; Normal Solutions

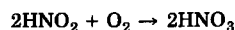
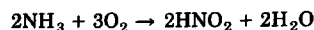
nitric oxide (NO) Reduction product of nitrite; reacts with myoglobin in meat to form nitrosomyoglobin

See Part 2: Meat Pigment

nitric oxide myoglobin See nitrosomyoglobin

nitric phosphate See Part 2: Fertilizer Materials

nitrification The bacterial conversion of plant and animal waste into soil nitrates



nitrite A salt of nitrous acid; a substance containing an NO_2^- ion; used in meat curing (both sodium and potassium nitrite can be used)

Maximum amounts of sodium nitrite or potassium nitrite:

$\frac{1}{4}$ oz/100 lb meat

Finished product cannot contain over 200 ppm (0.02%); many products 156 ppm max.

2 lb in 100 gal pickle (10% pump)

1 oz/100 lb meat in dry cure

Nitrite content is determined by extracting the sample with water and developing a color by using Griess reagent and then measuring this color spectrophotometrically; results can be obtained by comparing the value received with a known standard curve.

See Part 2: Chemical Poisoning

nitrite test strip See Part 2: Microorganism, Media

nitro- A prefix that is used to indicate that a compound contains the $-\text{NO}_2$ group

nitroalkane (nitroparaffin) ($\text{R}-\text{NO}_2$) A paraffinic hydrocarbon in which one hydrogen atom has been replaced by a nitro group; used as a solvent for cellulose derivatives

nitroamine Any of several nitrites with secondary or tertiary amines

nitrofurazone A drug that is used to treat enteritis

nitrogen (azote; N) A diatomic (N_2) gaseous element; at. no. 7; at. wt. 14.008; Group VA of the Periodic Table; oxidation states +1, +2, +3, +4, +5, -1, -2, -3;

electron configuration 2-5
orbit K L

It is nonflammable and nontoxic, is present in air (78% by volume), is an essential element in proteins and amino acids, and is also an essential component of soils and fertilizers.

Properties:

Boiling point— 320.5°F (-195.8°C)

Critical temperature— 232.9°F [-147.1°C (critical pressure 492.1 psia)]

Freezing point— 345.9°F (-209.9°C)

Heat absorbed

From -320 to 0°F —85 Btu/lb

From 0 to 70°F —17 Btu/lb

From liquid at -320°F to vapor at 35°F —174 Btu/lb

Latent heat of vaporization (-320°F)—85.7 Btu/lb

Liquid nitrogen—50.46 lb/ft³ or 6.7 lb/gal

See Part 2: Fertilizer; Fertilizer Materials; Honey Composition; Manure Analysis; Normal Solutions; Nutrients in Crops; pH and Availability of Plant Nutrients; Sugar Beet Yield; Wastes, Agricultural and Industrial

500 nitrogen base (nitrogenous base)

nitrogen base (nitrogenous base) A basic derivative of ammonia, especially an organic derivative, e.g.:

Purines
Adenine
Guanine
Pyrimidines
Cytosine
Uracil

nitrogen conversion factor Used in determining the protein value of a food: the nitrogen content of the food (as determined by the Kjeldahl method) is multiplied by a conversion factor, e.g., the "crude protein" value is usually obtained by multiplying the nitrogen content by a factor of 6.25.

nitrogen determination See **Kjeldahl determination**

nitrogen equilibrium Nitrogen intake (i.e., the protein eaten) balances nitrogen output

nitrogen fixation The microbial conversion of atmospheric nitrogen to organic nitrogen

nitrogen-free extract (NFE) The more-soluble carbohydrates and cellulose:

$$\% \text{ NFE} = 100 - (\% \text{ H}_2\text{O} + \% \text{ ash} + \% \text{ protein} + \% \text{ fiber} + \% \text{ fat})$$

nitrogenous extract A water-soluble substance that contains nitrogen

nitrogenous ratio (albuminoid ratio; NR) The ratio by which the body-building power of the diet is judged; it should be between 1:4 and 1:8.

$$\text{NR} = \frac{\% \text{ protein}}{\% \text{ carbohydrate} + \% \text{ fat}(2.5) + \% \text{ indigestible matter}}$$

nitrogen pentoxide See Part 2: Normal Solutions

nitroparaffin See **nitroalkane**

nitrosamine Any of many neutral compounds characterized by the grouping NNO; an organic compound in which NNO is attached to an alkyl or aryl group; may be formed from nitrites; some nitrosamines may be carcinogenic.

nitroso- A prefix that is used to indicate that a compound contains the —NO group

nitrosohemochrome See Part 2: Meat Pigment; Nitrate, Meat Curing

nitrosomyoglobin (nitric oxide myoglobin) The red pigment in cured meat (formed from nitrite and myoglobin) prior to heating
See Part 2: Meat Pigment; Nitrate, Meat Curing

nitrous acid (HNO₂) An aqueous solution of nitrogen trioxide (N₂O₃)
See Part 2: Nitrate, Meat Curing

nitrous oxide (laughing gas) (N₂O) A noncombustible gas that is used as an aerosol propellant, a refrigerant, and a general anesthetic; liquid nitrous oxide (−78°C) is used in cryogenic freezing.
See Part 2: Nitrate, Meat Curing; Refrigerant

niu-nai Milk

niu-rou Beef

niva 1) A sweet, cloudy white wine made from palm sap. 2) A blue cheese made from cow's milk

nixtamal Maize grain soaked in 1% lime solution

njeguski sir A hard, dry, low-fat, grating cheese made from sheep's milk

njohi A cloudy, alcoholic wine made from sugar-cane juice, usually consumed fresh

nkyekyere (sabo) Steamed dumpling balls made from degermed maize

nmada (nmeda) A maize-based aliha beverage

nmeda See **nmada**

NMFS National Marine Fisheries Service

NMR Nuclear Magnetic Resonance

NNRI National Nutrition Research Institute

No The symbol for the element nobelium

NOAA National Oceanic and Atmospheric Administration

nobelium (No) A synthetic radioactive element of the actinide series; at. no. 102; mass number of the most stable isotope 254; Group IIIB of the Periodic Table;
electron configuration 2-8-18-32-32-8-2
orbit K L M N O P Q

noble An element that is chemically unreactive and forms few compounds; refers especially to the gases of the zero-valent group of the Periodic Table, the first three of which (helium, neon, and argon) are completely inert; the term also refers to some metals of low combining power.

noble rot (*Botrytis cinerea*) A parasitic fungus that grows on grapes and causes them to become desiccated and higher in sugar and to produce a quality wine

nochoctli A white, viscous alcoholic beverage made by fermentation of the prickly pear (*Opuntia* sp.)

nocino A bitter, digestive liqueur flavored with nuts

node A stem joint where a leaf is or was attached; a swelling; an intersection
See Part 2: Corn

nodule A tubercle on the roots of a legume, produced by nitrogen-fixing bacteria (*Rhizobium* spp.) and harbors bacteria that allow the plant to use atmospheric nitrogen from the soil

noekkelost (nogelost; nokkel) A hard, spiced, flat, Norwegian cheese

NOEL No observed effect level

no-frills food A merchandising or marketing scheme by which foods carry no brand name and are simply and inexpensively packaged

nogg See **eggnog**

noggin (quartern) A measure of liquid volume used for liquor

$$\begin{aligned} 1 \text{ noggin} &= 1 \text{ gill} \\ &= \frac{1}{4} \text{ pint (pt)} \end{aligned}$$

nogyo kihon ho The basic agricultural law of Japan

noil Short wool fibers removed during the process of combing

noilly prat Dry vermouth

noisette 1) A hazelnut. 2) Small, choice pieces of lean meat

nokkelost A semihard, reduced-fat, mild-flavored cheese made from cow's milk; usually wheel-shaped

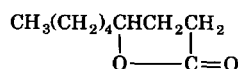
nokkelost cheese (leyden; spiced leyden) A cheese similar to edam except that it contains caraway seeds

-nom- A syllable used to indicate law

nominal price An estimated price in the absence of actual transactions; usually, it is the average between the last bid and the last offer

nominal rate of interest The actual rate of interest without adjustment for inflation

γ-nonalactone



Used as a coconut-like flavoring agent in food; sp. gr. 0.958–0.967

Storage: full, tight, glass container in a cool, dark place

nonanal [$\text{CH}_3(\text{CH}_2)_7\text{CHO}$] Used as a fatty, orange-like or roseline flavoring agent in food; sp. gr. 0.82–0.83

Storage: full, tight, glass container in a cool, dark place

noncarbonated beverage A fruit drink made with natural and synthetic flavorings and without carbonation

nonedible Inedible; not for human consumption

nonelectrolyte A substance that is not a good electrical conductor when in aqueous solution

nonenzymatic browning See **browning reaction**

nonessential An amino acid or fatty acid that is synthesized in the body and thus need not be obtained from external sources

no-net-cost program A price support program by which producers are assessed to finance the cost of the program

nonfat dry milk (NFDM) Skimmed milk that has been dehydrated

Composition	As is (%)	Moisture-free (%)
Protein	33.8–38.6	35.1–40.1
Lactose	43.8–55.9	45.5–58.0
Ash	6.39–9.47	6.63–9.83
Fat	0.1–1.8	1.66–2.12
CaO	1.6–2.04	1.66–2.12
Moisture	< 5	—

Titrate acidity (as lactic acid) 1.3–2%; alkalinity of ash < 200 ml 0.5N HCl/100 g; scorched particles < 32.5 mg/25 g (spray-dried), < 32.5 mg/17 g (roller-dried)

nonfat dry milk, calcium-reduced

Composition	Nonfat dry milk	
	Normal (mg/100 g)	Ca-reduced (mg/100 g)
Calcium	1257	280
Potassium	1794	680
Sodium	535	2280

nonfat dry milk solids Skimmed milk that has been dehydrated by spray-drying or vacuum-drying; used as a binder in sausages; 11 lb skimmed milk are required to produce 1 lb nonfat dry milk solids.

($\frac{3}{4}$ cup nonfat dry milk) + (4 cups water)

= 1 qt liquid skimmed milk

Instant form—coarse, creamy white, free-flowing particles that dissolve easily in water

Grades: Extra; Standard

The USDA grade for instant is US Extra; it has a sweet and pleasing flavor and will dissolve immediately in water.

	1 lb	Weight per cup	Prepared yield per cup
Instant	6 cups	75 g (2.4–3.6 oz)	8.6 oz
Noninstant	3.5 cups	131 g (4.6 oz)	

Composition: moisture 3.2% (5% max.); protein 36–37%; fat 0.7–0.8% (milk fat 1.5% max.); carbohydrate 51–52%; fiber 0%; ash 7–8%; sodium 644 mg/cup (instant), 373 mg/cup (noninstant)

Storage (unopened): 75°F or lower; keep dry; use within a few months

Storage (opened): tightly covered, in a cool, dry place

Storage (mixed with water): refrigerate like fresh milk

See also **binder**; **dried skim milk**

See Part 2: Food, Composition

nonfat milk Milk from which over 95% of the fat has been removed See **skimmed milk**

See Part 2: Dairy Terms; Milk, Amino Acids

nonfat milk solids The solids in milk other than fat; protein, milk sugar, and minerals

nonheading cabbage See **collards**

noninfectious Not infectious, e.g., a condition that is caused by things other than microorganisms

nonirradiated Not irradiated (“unirradiated” is considered to be incorrect)

nonmelting Describes the texture of the flesh of peaches used entirely for processing, e.g., Ambergem

nonnats See **whitebait**

nono See **fulani**

nonpareil See **caper**

nonpareille 1) Capers packed in vinegar. 2) Colored, granulated sugar

nonpolar Describes liquids that have a low dielectric constant and thus are poor electrical conductors, e.g., hexane (C_6H_{14})

nonprotein nitrogen (NPN) Nitrogen from sources other than amino acids, e.g., anhydrous ammonia, atmospheric nitrogen, and urea

502 nonrecourse loan

nonrecourse loan A price-support loan made to hold crops for later sale; the commodity for which the loan was advanced can be delivered to the government in full settlement.

nonreducing sugar A sugar that is oxidized very slowly or not at all by weak oxidizing agents (silver, mercuric, or cupric salts); contains no free aldehyde or ketone groups; e.g., sucrose

nonruminant Monogastric

nonsaponifiable Free from fatty acids
See Part 2: Wheat Products, Composition

non seq. *Non sequitur* (it does not follow)

nonstandardized food A processed food that is not regulated by a standard of identity

nonstick coating A perfluorocarbon used as a coating in nonstick cooking utensils; chipped particles are inert and pose no known health problems.

nontariff trade barrier Any type of restraint other than a tariff on imports or exports

nonvolatile extract An important component of a flavor profile; determined by solvent extraction of the resins and fats found in spices

nonyl acetate $[\text{CH}_3\text{COO}(\text{CH}_2)_8\text{CH}_3]$ Used as a fruity, floral-like flavoring agent in food; sp. gr. 0.864–0.868

Storage: full, tight, glass container in a cool, dark place

nonyl alcohol $[\text{CH}_3(\text{CH}_2)_7\text{CH}_2\text{OH}]$ Used as a rose-like, citruslike flavoring agent in food; sp. gr. 0.824–0.831

Storage: full, tight, glass container in a cool, dark place

noodles 1) A mixture of wheat flour and water (sometimes also milk and eggs) that has been formed into flat strips and dried

Other varieties:

Reginette—wavy strips

Tagliarone—one-third noodle width

Tagliati—irregular shapes

Types:

Egg noodles—min. 5.5% egg solids (whole eggs or yolk solids)

Plain noodles—less than 5.5% egg solids

Water noodles—less than 5.5% egg solids

Widths: extra-wide $\frac{1}{2}$ in.; wide $\frac{1}{4}$ in.; kluski $\frac{1}{8}$ in.;

medium $\frac{1}{8}$ in.; fine $\frac{1}{16}$ in.

1 lb, broken = 6–8 cups

1 lb, broken = 8 cups, cooked

8 oz, fine, uncooked = 4 cups, uncooked

= 4 cups, cooked

8 oz, med., uncooked = 6 cups, uncooked

= 4 cups, cooked

1 cup uncooked noodles

= 1–1.25 cups, cooked

= 1.3–2.6 oz

1 cup, cooked = 5.6 oz

Composition (dry): moisture 10%; protein 13%; fat 5%; carbohydrate 72%; ash 0.8%; cholesterol 50 mg/cup (egg noodles)

2) Slices of a sugar beet root

See Part 2: Cereal Enrichment; Grain Products, Composition; Macaroni and Noodles, Composition; Soups, Composition

nopale See cactus leaves

nopalitos Chopped cactus leaves

nor- A chemical prefix used to indicate “minus one methyl group”

norbo A gouda-type cheese with holes

nordihydroguaiaretic acid (NDGA) $(\text{C}_{18}\text{H}_{22}\text{O}_4)$

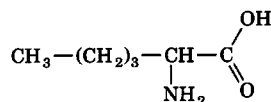
An antioxidant used to retard rancidity in fat; 0.01% in fat (total antioxidant), 0.02% (in combination)

See Part 2: Antioxidants, Formula

norea [3-(hexahydro-4,7-methanoindan-5-yl)-1,1-dimethylurea] An herbicide

nori (amanori) A Japanese seaweed; used as a garnish

norleucine A monoamino-monocarboxylic amino acid



normal (N) A solution of a concentration such that one liter of the solution contains one gram-equivalent weight of the solute

See Part 2: Normal Solutions; pH, Standard Solutions; Reagents, Normal Solutions; Sodium Hydroxide Solution

normal crop acreage The farm acreage that is normally devoted to a group of designated crops

normal distribution The equation for the distribution

$$\gamma = \frac{1}{\sigma\sqrt{2\pi}} e^{-(x-u)^2/2\sigma^2}$$

If $T = (x - u)/\sigma$,

$$\gamma = \frac{1}{\sqrt{2\pi}} e^{-T^2/2}$$

This type of frequency distribution is found when the data are measured on a continuous scale (may have fractional components of the unit 1).

See Part 2: Normal Curve

normal yield The average historical yield established for a particular farm or area

northern pike A finfish with light meat and light to moderate flavor

northern root-knot nematode (*Meloidogyne hapla*) An extremely small worm that attacks strawberries or other plants and common weeds by entering the roots to feed; it does not attack most grains and grasses; fumigation is one possible method of control.

Prevention: plant only stocks that are free of root knot

Northern Spy A variety of apple that is in season from Sept. to Dec.; excellent sauce and pie apples and good eating apples

Northrop, John H. Crystallized trypsin and pepsin

Norway haddock An oceanic perch-type food fish

Norway lobster See Dublin bay prawn; prawn

nose The aroma of tea or wine

nostrale (raschera) A hard Italian cheese made from cow's milk with rennet added

No Tail A breed of sheep
See Part 2: Sheep Breeds

notch A small cutout made in a can lap to aid in the formation of the body hook at the crossover

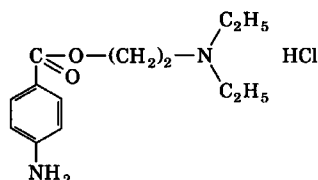
notchweed See **sandwort**

notruschki (tworog) A Russian cheese made from sour milk See **tworog**

nougat A confection made of condensed and skimmed milk, chopped nuts, sugar, and flavoring, often coated with chocolate See **candy**

nourishment (feeding) The act of supplying or receiving food

Novocaine The proprietary name for procaine hydrochloride; a nerve block anesthetic used in dentistry



novaculite (Arkansas stone; honing stone; sharpening stone; whetstone) A hard, compact, fine-grained, very pure, siliceous rock used for sharpening tools and knives.

Grades:

Black hard Arkansas—black; extra-fine; honing

Hard Arkansas—white; fine; touching blades

Soft Arkansas—gray; medium-coarse; rapid cutting

Washita—multicolored; coarse; rapid cutting

novinka Buttermilk with fruit syrup added

noyau See **crème de noyau**

nozawana Pickled *Brassica rapa*

nozzle with captive cap A one-piece plastic cap that is permanently attached to a nozzle by a narrow strip of molded plastic (to prevent loss and to make closure easy)

Np The symbol for the element neptunium

NPN See **nonprotein nitrogen**

NRC National Research Council

NRP National Residue Program

nsafufuo A sweet, cloudy white oil made from palm sap

nshima (shima) A fermented, cassava (with or without cereal) sourdough dumpling

nsihu An acidic, white dumpling made from maize flour (80% extraction)

nu (N, ν) A greek letter with an English equivalent of n; used as a symbol for the frequency of light and for refractive index

nua-khem Dried beef

nub See **nubbin**

nubbin (crook; nub) 1) A small ear of corn. 2) Small cucumbers that are crooked or imperfectly formed

Nubian A breed of goat

See Part 2: Goats, Milk Breeds

Nubian gin See **chang aa**

Nubian goat A brown to black breed of dairy goat originally from Nubia, Abyssinia, Upper Egypt, and northern Africa

nuchu A thick porridge gruel made from sorghum or millet and served with buttermilk and salt

nucleic acid Any of two types of polymerized nucleotides, the type depending upon the sugar (ribose or deoxyribose) in the nucleotides; a complex compound that on hydrolysis yields phosphoric acid, sugars, and one or more bases (purines and pyrimidines)

nucleoprotein A combination of proteins and nucleic acids; occurs in animal glands and wheat germ

nucleotide A molecule consisting of one molecule of phosphoric acid, one molecule of sugar (ribose or deoxyribose), and one molecule of a base [a purine (adenine or guanine) or a pyrimidine (thymine or cytosine)]

Type		Found in	Function
Sugar	Nucleotide		
Deoxyribose	Deoxyribonucleic acid (DNA)	Cell nuclei; chromosomes	Genetic material of cell
Ribose	Ribonucleic acid (RNA)	Cell nuclei; other parts of cell; ribosomes	Responsible for protein code

Nitrogen bases: purines (adenine, guanine); pyrimidines (cytosine, uracil)

nucleus 1) The center of an atom; contains most of the mass and is made up of protons (positively charged particles) and neutrons (neutral particles). 2) The central portion of a living cell; contains the chromosomes. 3) The benzene ring

Nuits-Saint-Georges A red wine

nukamiso-zuke Vegetables pickled in water, rice bran, and salt

numerical aperture (NA) A measure of the resolving power of a lens

$$NA = n \sin \theta$$

n (eta) = refractive index of the medium between the object and the lens

θ (theta) = the angle between the optical axis of the lens and the most divergent rays passing through the lens

numidia A strong-flavored blue cheese made from sheep's or goat's milk

nung-sa A snake wine

nuoc mam A condiment that is a salty fish sauce made from cured fish

nuoc-mam-qau-ca A fish sauce made from fish (*Clarius* spp. and *Ophicephalus* spp.) livers

nurse A large or small, spotted dogfish used for food

504 nurse cow

nurse cow A cow used to furnish milk for another cow's calf

nuruk Gray-white, dried balls of starter containing bacteria, molds, and yeast on a wheat base; used as inoculum for sake

nut A one-seeded fruit contained in a shell (55–65%) that does not open when ripe; high in protein, moderate in fat; e.g., chestnuts, filberts, hazelnuts, and pecans

2 lb, in shell = 1 lb nutmeats

1 lb, in shell = 2 cups nutmeats

1 cup, chopped = $\frac{3}{4}$ – $\frac{1}{4}$ lb

Storage (unshelled): keep at room temperature; will keep about 6 months (below 70°F, shelf life 1 yr)

To improve keeping quality: Keep in shell (will keep better than shelled); protect from oxygen; store at low temperature; unroasted nuts keep better than roasted and whole nuts keep better than nut pieces.

Storage (shelled): keep in an airtight container (65–75% relative humidity), refrigerate (32°F, storage life 8 months), or freeze (–10°F); freezing point 13–25°F; *See also* **nuts, canned**

See Part 2: Beans, Peas, and Nuts; Calories, Daily Recommendations; Fruit and Nut Rootstock; Fruit Classification; Iron, Daily Recommendations; Nicotinic Acid, Food; Nut, Grades; Oils, Seed and Fruit; Pulses, Nuts, and Seeds, Composition; Riboflavin, Food; Storage; Thiamin, Daily Recommendations; Thiamin, Food; Tocopherols

nut brittle A nut-flavored candy

nut butter A thick spread made by grinding nuts that have been dry-roasted; contains added oil and salt

To prepare: break nuts in a food chopper; dry and crisp nuts in oven (325–350°F) for a few minutes; grind finely in a nut mill or food chopper

nutmeg (*Myristica fragrans* Houtt.) The tan kernel of the fruit of the nutmeg tree; used as a spice; available whole or ground; the finer it is ground, the better the flavor dispersal but the quicker the potency will be lost. The aroma is warm, smooth, and spicy; the flavor is pleasant, warm, and bitter.

Classes:

East Indian—produced in Indonesia

West Indian—produced in Grenada

Types:

Light brown grind—made from good, sound, perfectly formed kernels

Dark brown grind—made from imperfect kernels

Grades:

Sound—80s or 110s (the number per pound avoirdupois)

Sound unassorted (varying sizes)—A, B, C, D

Substandard

Bruised and broken

BWP—broken, wormy and punky

Distilling (occasionally treated with lime to resist insects)—from Indonesia (poor quality or unripe), grades BIA or ETEZ (8–10% volatile oil) and BLZ or AZWI (12–13% volatile oil), and from Grenada (floats)

Floats—from a water flotation process

Sound shrivelled

The fruit contains a red, fleshy network, called an aril, that is the spice mace; nutmeg is the seed, which is dried before use and may have a coating of lime.

Composition: moisture 6–7% (8% max.); protein 5–8%; fat 36–37%; carbohydrate 49–50%; fiber 4–4.5% (10% max.); ash 2–5% (5% max.); acid-insoluble ash 0.5% max.; avg. volatile oil (volume/weight) 6–9% (6% min.); avg. nonvolatile extract 25% min.; fixed oil 25–40%; myristic acid 70–90% of fatty acid content. The ground spice deteriorates during storage due to loss of volatile oil and an increase in free myristic acid; the best flavor is obtained if nutmeg is freshly ground; used in sweet and milk dishes *See also* **mace**
See Part 2: Flavoring Agents, Natural; Spices, Microbial Content; Wastes, Agricultural and Industrial

nutmeg butter An orange-colored fat expressed or extracted from nutmeg

Composition: unsaponifiable matter up to 20%; fixed oil 25–40%; trimyristin 70–85%

nutmeg fat *See* Part 2: Saturated Fatty Acids

nutmeg melon *See* **melon**

nutmeg oil (myristica oil) A colorless to pale yellow to light brown oil obtained by steam distillation of dried kernels of the ripe seed of the nutmeg tree (*Myristica fragrans*)

Classes:

East Indian—nutmegs grown in Indonesia

West Indian—nutmegs grown in Grenada

Optical rotation +8° to +45°; refractive index 1.469–1.488 at 20°C; sp. gr. 0.880–0.911 g/ml (East Indian); 0.853–0.880 g/ml (West Indian)

Major constituents: monoterpene hydrocarbons 61–88%; oxygenated monoterpenes 5–15%; aromatic ethers 2–18%

Used as a flavoring agent in food

Storage: full, tight, container in a cool, dark place

nutmeg oleoresin Obtained by organic solvent (e.g., benzene, ethanol) extraction of nutmeg; volatile oil 10–90%

nut paste A mixture of sugar and ground nut kernels

nutrient Any substance that contributes to the growth and health of a living organism; any of the organic and inorganic compounds and elements that are constituents of foods and that are utilized in the normal metabolism of the body, e.g., in energy production, growth, and regulatory action; water is a nutrient but calories (a measure of the energy in food) are not.

Energy yielding nutrients: proteins; carbohydrates; fats

Essential nutrients: organic and inorganic compounds and elements which the body requires but does not synthesize (or synthesizes in insufficient amounts)

See **available nutrient**; **essential nutrient**

See Part 2: Nutrients in Crops; pH and Availability of Plant Nutrients

nutrient agar An agar used as a culture medium for bacteria (e.g., *Bacillus cereus*) *See also* **agar-agar**
See Part 2: Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

nutrient allowance A recommendation for nutrient intake, allowing for variables such as losses during storage and processing, the kind and quality of food or feed and the age, size, degree of activity, stress management, and health of the individual

nutrient broth A protein-rich liquid used as a culture medium for bacteria

See Part 2: Microbiological Examination of Dairy Products; Microbiological Media

nutrient-calorie ratio A measure of the nutritional value of a food, given as the weight of nutrients per unit of energy

nutrient density The ratio of essential nutrients to calories in a food

nutrient gelatin A gelatin used as a culture medium for bacteria (e.g., *Bacillus cereus*)

See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

nutrient requirements The intake of energy, protein, minerals, and vitamins necessary to satisfy the minimum needs (without margins of safety for maintenance, growth, reproduction, lactation, and work) of an individual

nutrition 1) The maintenance of an organism (a plant or an animal) by the absorption of nourishment from nutrients. 2) The science and study of the reaction of living organisms to food utilization for maintenance of life, growth, the normal functioning of organs and tissues, and the production of energy. 3) The process by which a living organism utilizes food to produce energy and for the maintenance of life, growth, and the normal functioning of organs and tissues. 4) Of humans, the science and study of how the body responds to changes in diet and consumption of food and to significant pathological or systemic factors (e.g., age, health, and disease) and of the chemical reactions involved in the nutritional process

nutritional anemia Anemia (a condition of lower than normal hemoglobin concentration, hematocrit, or number of red blood cells) that is caused by a deficiency of one or more essential nutrients (e.g., iron)

nutritional deficiency disease See **deficiency disease**

nutritional disorder An abnormal state of the body that is caused by consuming food that does not supply the physiological requirements or by failure to utilize the food after ingestion

nutritional dwarfing A result of inadequate diet, causing a child to be abnormally small for its age and genetic stock, but without clinical signs of deficiency disease other than growth retardation

nutritional labeling See Part 2: Nutritional Labeling

nutritional marasmus A severe form of protein-calorie malnutrition, usually occurring in infants, that is characterized by growth retardation with very low body weight, loss of subcutaneous fat, and muscle wasting

nutritional quality guideline Part of a regulatory procedure for establishing the nutrient content for certain classes of food

nutritional requirements (physiological requirements) The (average) daily intake of energy and nutrients needed by a healthy individual for growth and normal functioning of the body

nutritional status (state of nutrition) The general condition of an organism (or a person's body) due to the intake, absorption, and utilization of food and due to factors of pathological significance

nutrition education Educating the public in an attempt to improve the general nutritional status of the population

nutrition education and training program Provides funds for the dissemination of nutrition information to children and to food service and teaching personnel

nutrition indicators Measurements of factors of nutrition that are used to assess quantitatively the changes in the nutrition of population groups

nutrition information panel The portion of a food label where nutrition information is located; usually a panel on the right-hand side of the label

nutrition in public health The interactions between diet, health, and disease in a population

nutritionist A person trained in nutrition

nutrition labeling A statement of the nutrient content of a food (in terms of a stated serving or portion size) displayed on the container or package

Label content:

1. Serving size
2. Number of servings per package
3. Caloric content—number of calories per serving (to the nearest 5 calories)
4. Content of protein, fat, and available carbohydrate—number of grams per serving (to the nearest gram); percentage of U.S. recommended daily allowance (USRDA) of protein
5. Vitamin content—percentage of USRDA per serving (in 5% increments up to 20% and in 10% increments above 20%); must include vitamin A, vitamin C, thiamin, riboflavin, and niacin; others optional
6. Mineral content—percentage of USRDA per serving (in 5% increments up to 20% and in 10% increments above 20%); must include calcium and iron; others optional

nutrition rehabilitation Restoration of health of a person who has had a period of undernutrition or malnutrition

nutrition training Academic and practical instruction in nutrition, dietetics, food science, and food technology

nutritive ratio

nutritive ratio

$$= \frac{\text{digestible carbohydrate} + [(\text{digestible fat}) \times 2.25]}{\text{digestible protein}}$$

nutritive value An assessment of the nourishment supplied by a food

See Part 2: Meat, Nutritive Value

506 nuts, canned

nuts, canned Store at room temperature (below 70°F, shelf life 1 yr)

nuts, mixed A mixture of unshelled almonds, Brazil nuts, filberts, pecans, and walnuts; 1 oz/serving

nuwara eilyas A black tea from Sri Lanka

nyari turista (summer sausage) A semidry, cooked, smoked Hungarian sausage made from medium-

chopped, medium-seasoned beef and pork stuffed into artificial casings

nylon See **polyamide**
See Part 2: Mesh Sizes

nystatin A polyene, antifungal antibiotic that is added to food in some countries

nyuka A sour porridge made from maize, millet, or sorghum

o See ortho-

O Symbol for the element oxygen

oak A hardwood tree of which there are over 300 species; used for lumber and vegetable tanning; seeds (acorns) used for animal feed. Excellent firewood; 25 million Btu/cord (20% moisture); difficult to start; easy to split; light smoke, excellent coals, and few sparks

1 cord = 3,800 pounds

See Part 2: Insulation; Poisonous Plants

Oakite Proprietary name for a tribasic sodium phosphate ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$) used as a cleaning compound

oak leaf gland The pancreas

Strains: *Avena sativa*, *Avena sterilis*, *Avena strigosa*;
pH 6.0; approx nutrients required to produce:

	N (lb)	P ₂ O ₅ (lb)	K ₂ O (lb)
50 bu grain	32	13	9
2 tons straw	24	12	70
1 ton cover crop	30	12	50

Whole oats is 30% hulls

1 bu = 32 lb (range 26–36 lb)

1 cup, quick cook = 1.75 cups cooked

Feeding value compared to corn at 100%:

Whole oats—85%

Hulled (groats)—100%

Oats (form)	Composition					
	Dry matter (%)	Protein (%)	Fiber (%)	Fat (%)	Ash (%)	Starch (%)
Cereal by-product less than 4% fiber, feeding oat meal, oat middlings	91	15	3.5	6.5	2.3	
Grain	89–92	9–22	10–12	5–10	3–4	65–86
Groats	90	16	2.5	6	2	
Hay, sun dried	91	8.5	28	2.5	7	
Hulls	92	3.6	31	1.6	6	
Silage	31	3	10	1	2	

Oakleaf lettuce A leaf lettuce with deeply notched leaves

oak root fungus See *armillaria root rot*

oarweed (*Laminaria digitata*) A seaweed used for food, livestock feed, and the production of alginates used for thickening, emulsification, and food film formation

oat (*Avena byzantina*, a red oat; *Avena sativa*, a white oat) An annual temperate zone, grain crop used for livestock (ripe grain as food; green stage as fodder, hay, or pellets) and human food (porridge, grits, oatmeal, and rolled oats). Oat flour has antioxidant properties and is mixed with other flours to retard rancidity. Oat husk (removed during milling) has been used for fuel, packing material, and as a raw material for the production of furfural. Plant 50–80 lb/acre; 145–155 days to maturity

Weight of dried products:

	lb/qt	lb/bu
Ground	0.7	22
Middling	1.5	48
Oat	1	32

See Part 2: Cereal Composition; Cereal Nutrient Content; Minerals, Food; Nicotinic Acid, Food; Nutrients in Crops; Plant Foods, Composition; Protein Factors; Seed, Chemical Composition; Seed Composition; Seed, Germination; Spoilage, Fat in Food; Tocopherols

oat, cereal

Composition (breakfast cereal, dry): moisture 10%; protein 15%; fat 5%; carbohydrate 67%

See Part 2: Grain Products Composition

oat flour Ground oats with bran removed

oatgrass (*Arrhenatherum elatius*) A long-lived, perennial bunchgrass that produces a seed that is smaller and more chaffy than oats

See Part 2: Seed, Germination

oat, groats Whole, uncut, uncrushed kernel of oatmeal; oats with hull removed

oat gum A plant extract used as an antioxidant, stabilizer, and thickening agent

oatmeal (oats; rolled oats) Ground or cut and rolled oats made by rolling the groats to form flakes; contains nearly the whole oat kernel and is often referred to as whole grain. Quick cooking, sometimes

508 oatmeal (oats; rolled oats)

steaming and then flaking; the groats are cut and then rolled to produce thin, small flakes used as a breakfast cereal and in cooking.

Grades of ground meal or flour: coarse, medium, fine

Equivalents:

100 pound (lb) oatmeal = 7.6 bushels of oats

$2\frac{2}{3}$ cups = 1 lb

1 cup, instant = 2.3 oz

1 cup, quick = 2.3 oz

1 cup, regular, dry = 2.5 oz

1 cup, cooked = 8.5 oz

1 oz, dry = $\frac{2}{3}$ cups cooked

$\frac{3}{4}$ cup, cooked = 100 calories

Composition	Oatmeal	Oatmeal, cooked
Moisture (%)	7-8	84-85
Protein (%)	14-17	2.8
Fat (%)	7-8	0.5
Carbohydrate (%)	67-68	11.5
Ash (%)	2	0.7

Storage: tightly covered, cool or refrigerate, dry place (5 months) or freeze for longer storage

See also **rolled oats**; **Scotch oatmeal**; **steel cut oatmeal**

See Part 2: Food, Composition; Grain Products Composition; Minerals, Food; Thiamin, Food; Vitamin A, Food

oatmeal cookie

Ten, $2\frac{1}{2}$ -in. cookies = 1.67 cups, finely crushed

Composition, sodium:

Plain—77 mg/cookie (18 g)

With chocolate chips—54 mg/2 cookies (26 g)

With raisins—55 mg/2 cookies (26 g)

oat, puffed

Plain—1 oz (about $1\frac{1}{6}$ cups) = 115 calories

Sugar coated—1 oz (about $\frac{4}{5}$ cups) = 115 calories

See **puffed oat**

See Part 2: Grain Products Composition

oat, rolled (old fashioned) Oat grain crushed and husked by a rolling process; pressing whole oat kernels through heated rollers; whole grain product containing the germ and outer layers of the grain where the B vitamins and minerals are concentrated

Types:

With seed jacket (most husk)

Without seed jacket

See **rolled oat**

oat, steel-cut Thin sliced, oat kernels; broken oat seed grain made by passing grain through steel cutting machines; takes longer to cook than rolled oats

oaxaca A provolone-type cheese made from cow's milk

obese Excessive fat in the body

obesity Excessive fatness

objective 1) The opposite of subjective; a test recorded by a physical instrument and thus independent of an individual's judgment. 2) The lens nearest the object of a compound microscope

oblaten Large wafers

oblayo A sour maize (and sometimes groundnut) paste porridge

obligate aerobes Bacteria that must have oxygen for growth See also **aerobic**

obligate anaerobes Bacteria that can grow in the absence of oxygen; cannot live if oxygen is present See also **anaerobic**

obstbranntwein A brandy made from fruit other than grapes

obturator A thigh muscle that covers the obturator foramen and runs to the femur

obturator foramen A hole in the pelvic bone

obungi bwakawa A sour millet or sorghum porridge

obushera A sour millet or sorghum porridge

oca (occa; oka; okaplan; *Oxalis tuberosa*) A plant that produces a white, yellow, or red, edible tuber; the tubers are usually semidried before eating and the leaves and shoots may be eaten as a salad; a potato substitute

occa See **oca**

occipital The back of the head; base of the skull

ocean catfish See **catfish**

oceanic bonito A skipjack; a food fish

ocean perch A lean fish caught off the North Atlantic and North Pacific coasts.

Atlantic—redfish; red perch (firm, white, lean fish); rosefish

Northeast Atlantic (*Sebastes marinus*)

Northwest Atlantic (*S. mentella*)

Pacific—members of rockfish family; firm, lean, white flesh

1 fillet = approximately $\frac{1}{4}$ pound

ocean pout (*Macrozoarces americanus*) A dark meat, light to moderate flavor, fin, food fish

ocha A tea

ochazuke Tea and rice

ocotli A white, viscous, alcoholic beverage made by fermentation of century plant (*Agave*)

octacosanoic acid See Part 2: Saturated Fatty Acids

octadecadienoic acid Linoleic acid; occurs in vegetable oils; is polyunsaturated

See Part 2: Milk, Fatty Acids, Seasonal; Unsaturated Fatty Acids

octadecanoic acid See **stearic acid**

octadecatrienoic acid Linolenic acid, a polyunsaturated fatty acid essential in the diet

See Part 2: Unsaturated Fatty Acids

octadecenoic acid See **oleic acid**

octanol [$\text{CH}_3(\text{CH}_2)_6\text{CHO}$] Used as a fatty or fruity flavoring agent in food; sp. gr. 0.818–0.831

Storage: full, tight container in a cool, dark place

octanoic acid $[\text{CH}_3(\text{CH}_2)_6\text{COOH}]$ A saturated fatty acid found in coconut oil; used as a defoaming agent and to make other food activities; sp. gr. 0.980–0.912
Storage: tight container
See Part 2: Saturated Fatty Acids

octopus Edible (lobster-like flavor), saltwater, cephalopod mollusk (related to squid) with eight suckered arms; meat is firm and sweet but will become tough if overcooked
Curled (Atlantic, Mediterranean; *Eledone cirrosa*)
Northeast Atlantic, Mediterranean (*Octopus vulgaris*; *O. macropus*)
Pacific (*Polypus hongkongensis*)
Pacific (poult; *O. punctatus*)

octyl acetate $[\text{CH}_3\text{COO}(\text{CH}_2)_7\text{CH}_3]$ Used as a fruitlike flavoring agent in food; sp. gr. 0.864–0.868
Storage: in a full, glass container in a cool, dark place

octyl butyrate (butyric acid) An artificial flavoring agent

octyl formate $(\text{C}_8\text{H}_{17}\text{OOCH})$ Used as a fruitlike flavoring agent in food; sp. gr. 0.868–0.872
Storage: full, tight, glass container in a cool, dark place

ocuja A white or red wine

odalsöst A 10–11-kg Swiss cheese made from cow's milk

odenwalder A low-fat, high-protein, semisoft cheese made from cow's milk

odor (odour; scent; smell) A sensation caused by stimulation of olfactory receptors in the nasal cavity (sense of smell); gaseous material that is smelled; smell; scent; fragrance
Fundamental sensations:

Burnt
Caprylic or goaty
Fragrant
Sour or acid

Odors are determined in the uppermost regions of the nasal cavity
See Part 2: Bacteria on Chickens at Various Holding Temperatures

oelenberg A tilsit-type cheese

oenometer See **vinometer**

oestrogen See **estrogen**

oestrous cycle Periodic appearance of oestrus in unserved females

oestrus (heat) Signs of sexual receptivity in the female under the influence of oestrogen in the blood
See **heat**

ofam See **ablongo**

OF basal medium See Part 2: Microorganism, Media

offal (organ meat; side meat; variety meat) Variety meat; by-products of processing; less valuable portions; by-products of milk; intestine and other waste parts (inedible) of the carcass; sometime extended to include edible internal organs; parts removed from carcass in dressing; also the bran and germ removed in milling

Examples:

Brains
Entrails
Heart
Kidney
Liver
Lungs
Small intestine of pork, chitterlings
Sweetbread
Testicles
Tripe
Feet
Head
Tail
Tongue

See **variety meat**

See Part 2: Meat and Meat Products Composition

off-feed Not eating with a normal or healthy appetite

off-flavor An objectionable, unpleasant, foreign, atypical, or unnatural flavor

official Methods that provide a basis for regulatory action without additional product analysis

off-odor An objectionable, atypical, unnatural, or uncharacteristic odor

offset The elimination of a current long or short position by the opposite transaction

offset printing A printing method where the image is transferred to an intermediate cylinder and then transferred to the final product

off-setting compliance A proviso whereby a farmer who desires to participate in a program for one farm must also meet the program provisions for other farms that he/she owns or operates See **cross-compliance**

off-side The right side of a horse

offspring Progeny; young

Ogden A variety of soybean

ogede A porridge or paste made from banana or plantain flour

ogi A sour, maize porridge

ogili (ogili-isi; ogili-ugba) Dark brown, fermented balls of castor oil seed used in soup and stews

ogili-isi See **ogili**

ogili-ugba See **ogili**

ogiri Dark brown, fermented balls of melon seed used in stews and soups

ogiri-agbor (ogiri-igbo) Dark brown, fermented balls of castor oil seed used in soup and stews

ogiri-igbo See **ogiri-agbor**

ogiri-nwan Dark brown, fermented balls of fluted pumpkin seed used in soup and stews

ogiri-saro Dark brown, fermented balls of sesame seed used in soup and stews

ogogoro A local gin distilled from palm wine

Ohio Improved Chester A meat-type breed of hogs with early breeding similar to the Chester White; later crossed with hogs known as Todd hogs; it is solid white with drooping ears

See Part 2: Swine Breeds

510 ohm (Ω)

ohm (Ω) A measure of resistance (R) to current flow
 $1 \Omega = 1 \times 10^6$ megohms ($M\Omega$)
 $= 1 \times 10^6$ microhms ($\mu\Omega$)
 1 international ohm = 1.0005 ohm (Ω) absolute
 1Ω (absolute) = 0.999505 International ohm
 $100 \Omega = 1$ kilohm ($k\Omega$)
 $1,000,000 \Omega = 1$ megohm ($M\Omega$)

Ohm's law $I = E/R$, where I = current in amps,
 E = potential in volts, and R = resistance in ohms

$$P = I^2 R = EI = \frac{E^2}{R}$$

P = power = watts = joule per second

OIC See **Ohio Improved Chester**

oidium A mildew that affects grape vines

oie farcie Stuffed goose

oigee (oiji) Acidic, carbonated cucumber

oiji See **oigee**

oil A fat that is viscid liquid at room temperature; a food oil is a natural or processed edible fat that is liquid under existing climatic storage conditions. There are both cooking and salad oils.

Obtained from: almond, brazil nut, coconut, corn, cottonseed, hickory nut, mustard, olive, palm nut, peanut, pecan, poppy seed, rapeseed, safflower, sesame, soybean, sunflower, walnut

Essential oil—flavored portion of flowers, herbs, spices, and fruit

Mineral oil—used to coat food machinery to prevent rusting

Stain removal from cloth: apply detergent directly to stain and let stand for several hours; sometimes a cleaning fluid (solvent) with be required

oil cake The solid residue remaining after extraction of oil from seeds

oil, fuel Equivalent to No. 2 fuel oil or diesel oil; 1 gal. = approx 8 lb

See Part 2: Fuel, Heating Value

oil-gland darkening A polka-dotted appearance of the oil glands of grapefruit and tangelos subjected to chilling temperatures during storage

oil immersion Microscope examination in which oil with the same refractive index as glass is placed between the objective lens and the specimen

oil, lubricating See **petroleum**

oil meal Oil cake that has been pulverized; used as cattle feed

See Part 2: Oil Meals Composition

oil of frankincense Olibanum oil, distilled from a vegetable gum (thus) native to northeast Africa

oil of shaddock Expressed grapefruit oil

oil palm (*Elaeis guineensis*) A subtropical palm that grows in fairly poor soil but requires moderate

rainfall; grows chiefly in western Africa

Parts of fruit	Source	Use
Extracted kernel	Inner kernel extracted	Oil cake for livestock feed
Inner kernel	Center of seed	Palm kernel oil
Mesocarp or pericarp	Fibrous pulp beneath outer skin	Palm oil of commerce
Outer black shell of nut	Seed shell	Fuel
Sap	Tapping tree	Fermented for wine

See **palm; palm kernel oil; palm oil**

oil sardine (*Sardinella longiceps*) An Indian food fish

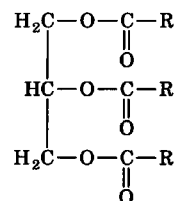
oilseed crops Crops from which oil is extracted, e.g., castor bean, cotton seed, flax seed, peanut, safflower, sesame, soybean, sunflower

oilseed, fermented Dark brown, fermented balls of oil-rich seed used in soup and stews

oil, spice An oil obtained by steam distillation

oil spotting (oleocellosis) Rind oil spotting on citrus fruit is a bruising injury caused by mechanical treatment, freezing, or insects. Liberation of oil from ruptured oil glands causes irregularly shaped yellow, green, or brown spots that stand out on the rind; often occurs when immature fruit is handled when wet

oil, vegetable Glycerides of fatty acids obtained from seeds, nuts, fruits, etc., of plants. The generalized formula of a triglyceride is



Vegetable oils are liquid at room temperature ($18-25^\circ\text{C}$)

2 tbsp = 1 oz

1 cup = 20 g

Storage: 35°F will yield 8 months storage life

Salad or cooking composition: moisture 0%; protein 0%; fat 100%; carbohydrate 0%; ash 0%

See also **fat, salad oil**

See Part 2: Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Melting Points, Fats and Oils; Minerals (Trace), Limits; Oil or Fat, Characteristics; Oils and Fats Composition; Oils, Seed and Fruit; Oil, Triglyceride Mole Percent Composition; Orange Essence Oils; Orange Oil Composition; Orange Oil Properties; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Vitamin A, Fish; Vitamin D, Fish

oily Slick, greasy flavor or appearance
oisobaegi Acidic, carbonated cucumber
oiticica oil A drying oil obtained from a Brazilian tree; used in paints
 See Part 2: Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Refractive Indices, Fats and Oils
o'jaffa A grapefruit and orange liqueur
ojen An aniseed-flavored, herb liqueur
oka (trappist) A light, creamy yellow, semihard to soft, medium-flavored cheese made in Canada See **amala**; **oca**; **port du salut**
okaplant See **oca**
okara kirazu Bean curd residue remaining after making tofu
Oklahoma Common A variety of alfalfa
okolehao A spirit distilled from molasses and rice and flavored with taro (*colocasia* species) or coconut juice; Hawaiian whiskey distilled from a mixture of sugar cane, rice, and taro root
okra (bamia; bamies; bamya; gumbo; lady's fingers; okro; quimbombo; Abelmoschus esculentus L. Moench; Hibiscus esculentus) An annual of the cotton family, native to the Nile valley that

when 1 ft long; yield 5 pods/foot of row
 Leaves—used like sorrel
 Pods—used to thicken or as a vegetable like asparagus
 Seed—dried like beans or pickled; used as a coffee substitute
 100 pounds (lb), fresh = 10–11 lb dry
 1 bu = 30 lb
 1½ lb, fresh = 1 qt, canned
 1 lb, fresh = 4–5 servings
 = 3 cups, sliced fresh
 = 2¼ cups, cooked
 = 2 pints, pickled
 1 cup, fresh sliced = 0.3–0.5 lb
 1 cup, cooked = 180 g (6.2 oz)
 Pod types:
 Oblong—*gomba*
 Round—*bamya*
 Can be frozen (rings), canned (whole, small pods, and cut crosswise in lengths of 1 in. or rings); also partially fermented in a salt brine, pickled small pods or dried (by splitting and stringing together and allowing to air dry)
 Cook: boil 8–20 min or until tender; saute or bake until tender
 Composition (raw): moisture 89%; protein 3%; fat 0.3%; carbohydrate 8%; ash 0.8%; Ph 4.9

Okra variety	Pod	Pod length (in.)	Season (days)	Plant height (ft)	Use
Clemson Spineless	Dark green, slightly grooved, spineless, straight	5–9	56	5	Fresh, processed
Dwarf Green Emerald	Round, slender, straight, spineless, dark green	8–9	50–60	5	Fresh, processed
Gold Coast	Short, round, straight, green	3–4	55	4.5	Fresh
Louisiana Green Velvet	Slender, round, straight, green	7	60	7–9	Fresh, processed
Perkins Mammoth Long Pod	Dark green, ridged	7 × 1	50–60	10–12	Fresh, processed
Red Okra	Fresh—red, cooked—green, grooved, curved		60 days	5–6	
Spineless Green Velvet	Green, smooth, round, spineless	7	58		Fresh, frozen

produces fuzzy, tapering (pointed, 5–12-sided) seed pods that contains many small, kidney-shaped seeds; pods may be eaten if picked in the immature stage (under 4½ in. long); as a condiment or strong-tasting vegetable; available fresh, cooked, canned, or dried; often used to thicken (mucilaginous body) other dishes (soups and gumbos)

To plant: seed 4 lb/acre; 500 seeds/oz; 1 oz/100-ft row; thin to 16 in. in rows 30–48 in. apart; matures in 90 days; harvest when the pods are less than 3–4 in. [exception red and heirloom (cowhorn) are tender

Storage: pods remain tender only a few days after picking; store at 50°F, 85–95% relative humidity, 7 days storage life See **Chinese okra**; **pickle**

See Part 2: Minerals, Food; Plant Foods, Composition; Planting Density; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetable

Servings; Vegetable Storage; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields

okro See **okra**

oladyi A thick pancake often made with potatoes

olawska A semidry, cooked, double smoked Polish sausage made from medium or coarsely chopped, medium seasoned pork and stuffed into a beef or artificial casing

old ale A sweet, strong, fruity, dark ale

old cocogam See **taro**

Old English cheese A processed cheese

old fashioned An alcoholic beverage made from 1½ oz (1 jigger) bourbon or rye, dash of angostura bitters, 1 tsp sugar, and ½ oz sparkling water; add ice, stir, and add twist of lemon peel, orange slice, and cherry

old fashioned loaf Cooked meat specialty made from lean pork and enough beef to add flavor and firmness
Composition: sodium 275 mg/slice (22 g)

old Heidelberg cheese A soft, medium strong, small (120 g) rectangular-shaped cheese made from cow's milk and ripened by surface bacteria

old man See **southernwood**

Old Norfolk A breed of wild, horned sheep that have long bodies and legs

old process (expeller process; hydraulic process)
The mechanical extraction of oil from seed

Old Tom A sweetened gin

Old Vienna A cognac liqueur flavored with coffee

old woman See **wormwood**

ole A salami made from medium chopped beef and pork; a dry, uncooked, unsmoked Belgian sausage made from medium chopped, beef and pork that is fermented and stuffed into artificial casings

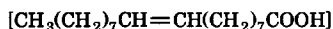
oleander A plant having a toxic principle
See Part 2: Poisonous Plants

olecranon process See Part 2: Bone

olefin See **alkene**

oleic See Part 2: Olives and Pickles, Composition

oleic acid (cis-9-octadecenoic acid)



An 18-carbon unsaturated fatty acid widely distributed in nature, especially in olive oil. Iodine number 90; melting point 14°C; saponification value 196–207; sp. gr. 0.893–0.897.

Uses: a food binder, lubricant, defoaming agent, and to make other additives.

Storage: tight container

See Part 2: Beans, Peas, and Nuts; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fatty Acids and Their Properties; Fatty Acids; Fatty Acids, Fats and Oils; Fish and Shellfish Composition; Fruit Composition; Grain Products Composition; Meat Composition; Milk, Fatty Acids, Seasonal; Oils, Seed and Fruit;

Poultry Composition; Sausage Composition; Seeds, Chemical Composition; Soups, Composition; Sugars and Sweets Composition; Unsaturated Fatty Acids; Vegetable Composition; Wheat, Fatty Acids, Wheat Products Composition

olenda A gouda-type cheese

oleo Short for oleomargarine

oleocellosis See **oil spotting**

oleomargarine A term originally applied to margarine; made from oleo oils of beef fat. A plastic food made of animal and/or vegetable fat; minimum 80% fat, citric acid (preservative); isopropyl citrates maximum 0.02% (preservative); stearyl citrate maximum 0.15% (preservative) See also **margarine**

See Part 2: Fats and Oils, Characteristic; Margarine Formulae; Minerals, Food

oleo oil The liquid fraction separated from animal fats and used in making margarine

oleoresin The solid, semisolid, or heavy viscous fluid or residue obtained by solvent extraction or percolation of plant matter; percolation is usually with ether, acetone, alcohol, or other solvent; oleoresin is obtained from plant material, spices, and softwood trees or roots, leaves, fruits, seed, stem, bark, or buds, etc. The extraction or percolation is then followed by removal of the solvent or by recombination of the volatile and nonvolatile flavor components following their separation from the natural source; contains both volatile and nonvolatile portions. Volatile and nonvolatile oils extracted with volatile organic solvents from spices; often coated on a carrier (e.g., salt, sugar, or dextrose). Oleoresins are stronger in flavor than essential (volatile) oils; often used to add heat to the product See also **turpentine**

oleoresin can coating Natural resins or ester gum, tung oil, driers, and thinner; dehydrated castor oil

oleoresin, capsicum Obtained by solvent extraction of dried, ripe fruit of capsicum and with subsequent removal of the solvent; color value 3,500–27,900; Scoville heat units 147,000–500,000

oleron See **jonchee d'oleron**

olfaction The sense of smell

olfactory Referring to bodily organs and nerve responses responsible for the sense of smell See also **odor**

olibanum oil (oil of frankincense) A volatile oil obtained from the gum of *Boswellia carterii*; used as a balsamic flavoring agent for food; sp. gr. 0.862–0.890

Storage: full, tight, glass container in a cool, dark place
See **oil of frankincense**

oliebollen A wheat flour doughnut

oligo- A prefix meaning few or small

oligodynamic action The inhibition or killing of microorganisms by small amounts of a chemical

oligotrophic water Water containing a negligible supply of nutrients; will support little organic production

olive The fruit of the evergreen tree *Oleo europea*; originated in central Asia and grows in subtropical, fairly arid regions in well-drained soil. The tree (10–40 ft) is a slow growing, long-lived evergreen. The drupe (fruit) is green and turns dark blue or purplish when ripe (20–30% oil); it contains a single seed and may be picked green or ripe and is usually packed in brine. Stuffed olives are green and pickled with seed removed and pimienta, sweet red pepper, onion, almonds, or anchovies inserted in seed area. Fresh, unprocessed, green olives are bitter due to a glucoside, which is neutralized with an alkali and salt treatment. The olives are then fermented to yield lactic acid. They are then packed in a 7.5% brine for retail sale

Types:

Black (ripe) olive—ripen on the tree; skin is brown to purple black; dark pulp; bland flavor

California varieties:

Ascolano

Mission

Sevillano

Greek—dry pack, unpitted, preserved; salty, bitter, shriveled, and soft

Green olive—picked unripe; skin is yellow tinted; firm, pinkish pulp; agreeable flavor

Kosher dill—contains olives, sprigs of dill, red pepper, garlic, whole mustard seed

Place pack—symmetrically arranged by hand

Thrown pack—not arranged

Olives, packed and canned weight (g)

	With pits	Without pits
Green		
Medium	4	3.2
Extra large	5.3	4.3
Giant	8	6.5
Ripe		
Small	3.3	3
Large	5	4.5

1 lug (5.75 × 13.5 × 16.1 in.) = 25–30 lb

3 pt = 50 servings

1 cup, pimienta stuffed olives = 4 oz

Composition (green): moisture 78%; protein 1.4%; fat 13%; carbohydrate 1.3%; ash; 6.4 %; sodium 323 (mg)/4 olives (16 g)

Composition (ripe): moisture 73–84%; protein 1.1%; fat 9–20%; carbohydrate 2.5–3.5%; ash 2.5%; sodium 96 mg/3 mission olives (15 g); pH 7.0

U.S. grades, ripe or green olives: Grade A (fancy); B (choice); C (standard); substandard

Green and ripe olive sizes:

No. 1 (small)—128–140/lb

No. 2 (medium)—106–127/lb

No. 3 (large)—91–105/lb

No. 4 (extra large)—76–90/lb

No. 5 (mammoth)—65–75/lb

No. 6 (giant)—54–64/lb

No. 7 (jumbo)—46–52/lb

No. 8 (colossal)—33–45/lb

No. 9 (supercolossal)—32 max.

Weight and composition of ripe fruit:
fruit, 1.5–13 g

oil, 15–35%

pit, 14–30% of wt of ripe fruit

seed kernel, 5% of the oil

soluble solids, 6–10%

Types:

American: $\frac{1}{2}$ ripe, reddish fruit

Greek: preserved after fully ripe and dark purple in color

Spanish: fermented, unripe, yellowish green olives

Storage (fresh): 45–50°F, 85–90% relative humidity; storage life 4 weeks.

See also **olive oil**

See Part 2: Calories, Daily Recommendations; Food, Composition; Fruit Canning Dates; Fruit Classification; Fruit Composition; Minerals, Food; Oils and Fats Composition; Olives and Pickles, Composition; Standards, Processed Fruit and Vegetable Products; Storage; Unsaponifiable Matter

olive, cerignola Giant, green olives

olive drab coating An opaque, dark green coating required for certain branches of the government

olive loaf A fine textured, cooked specialty meat made with lean pork and beef and mixed with whole, stuffed olives

Composition: moisture 58.2%; protein 11.8%; fat 16.5%; carbohydrate 9.2%; ash 4.3%; sodium 312 mg/slice (21 g)

See Part 2: Sausage Identification

olive oil A nondrying oil obtained by pressing or extracting the fruit of the olive tree (*Olea europea sativa*); color varies from pale gold (highest grade) to greenish gold to light green; yield 26–60%; oil yield avg 200 kg/ton of olives

Composition: arachidic 0.5–0.9%; linoleic 5–15%; linolenic 1%; oleic 62–84%; palmitic 7–17%; palmitoleic 2%; stearic 2–3%

Properties: Free fatty acid in edible oil 0.3–2.8% (1.41% maximum desirable level); iodine number 78–90; melting point –6°C; refractive index (15.5°C) 1.470–1.472; fresh olive oil: smoke point 390°F (199°C), flash point 435–610°F (225–321°C), fire point 650–682°F (343–361°C); stored olive oil: smoke point 300–315°F (149–157°C); saponification value 185–196; saturated fatty acids 9–18%; sp. gr. 0.9158 at 20°/4°C; titer 17–26°C; unsaponifiable 0.5–1.8%; congealing at 4.4°C does not affect quality; melting is –6°C (liquid at room temperature); coefficient of digestibility 97.8%

Volume:

1 qt = 4 cups

1 cup = 210 g (7.4 oz)

Blended olive oil grades:

Blended (blend of virgin and second quality refined)

Pure (blend of virgin and refined)

Industrial olive oil:

Solvent extraction of olive residues.

Virgin olive oil grades (oil obtained by pressing): First oil obtained by cold pressing; clarification is by mechanical means

Extra—oleic acid does not exceed 1 g/100 g

Fine—oleic acid does not exceed 1.5 g/100 g

Ordinary—oleic acid may be up to 3 g/100 g

Lampante—off-flavor

Refined olive oil grades: second, third, and fourth pressing oil that is chemically treated
Pure (refined from virgin oil)

Second (refined from solvent-extracted oil)

Uses: salad dressings; cooking oil; Castile soap; ointments and cosmetics

Storage: 35–40°F (it thickens and changes color at lower temperatures); protected from light and sealed
See Part 2: Fats and Oils, Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Fats and Oils, Characteristic; Fats and Oils, Composition; Free Fatty Acid, Smoke, Flash, Fire Points; Iodine and Saponification Values; Oil or Fat, Characteristics; Oils, Seed and Fruit; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Titer, Fats and Oils; Tocopherols; Unsaturated Fatty Acids

olive, ripe

Style of packing

pitted—stuffed with pimientos

unpitted—most popular

Color:

Dark brown

Purplish black

Olive varieties	Size comparison	Oil (%)	Texture	Color	Flavor	Size designations	Popularity
Ascolano (white olive of Ascoli)	Larger	10	Tender	Light		Giant, jumbo, colossal	
Manzanillo	Smaller	16	Good	Deep	Good, bitter	Small, medium, large, extra large, mammoth	Very popular
Mission	Smaller	25	Good, firm	Deep	Good, bitter	Small, medium, large, extra large, mammoth	Very popular
Sevillano	Larger	10		Deep		Giant, jumbo, colossal	

olivet A soft French cheese with a blue rind made from cow's or goat's milk with rennet added; matured 1–3 months, often in wood ashes and wrapped in leaves

olla podrida A Spanish stew (cabbage, chick pea, sausage)

olluco Round yellow tuber with yellow flesh produced by a creeping stem and used like a potato

olmutzer A strong-flavored, semisoft to semihard, acid-curd cheese; sometimes flavored with caraway seed

olmutzer quargel cheese A German, hand cheese flavored with caraway seed

olomoucky (knot) A strong-flavored, acid-curd cheese made from cow's milk and flavored with caraway seed

oloron An esbarch-type cheese made from ewe's milk that is matured a few weeks or longer for a stronger flavor

oloroso Sherry that has never developed flavor; full, golden-colored wine with more body than amontillado; a golden, sweet, full-bodied, sherry wine

olorosso Sweet or cream sherry

omasum (bible; manyplies; pecks) The third stomach of a ruminant animal located on its right side and often called the manyplies, bible-bag, prayer book, or manifold; it reduces the water content of foodstuffs entering it; the contents of a bovine omasum may be 2–5 gal

omega (Ω, ω) Greek letter with an English equivalent of a long o. Substitution on the end carbon atom

omega-3 A polyunsaturated fatty acid found in seafood; some scientists reported that it can help to reduce heart attacks

Quantity of omega-3 fatty acid in 4 oz serving:

Albacore tuna 2.6 g

Chinook salmon 3.6 g

Clams 0.5 g

Herring 1.2–2.7 g

King crab 0.6 g

Mackerel 1.8–2.6 g (continued after table)

Quantity of omega-3 fatty acid in 4 oz serving:

Mussels 0.5 g

Rainbow trout 1.0 g

Scallops 0.5 g

Shrimp 0.5 g

Sockeye salmon 2.3 g

Whiting 0.9 g

omega-6 A family of essential nutrients present in polyunsaturated vegetables oils.

Requirement: 2 g/day

omelet (omelette) An egg-based food; a mixture of eggs and milk that has been cooked over low heat without stirring, then folded over to serve; often with filling between folds (e.g., cheese, ham, mushrooms, tomatoes, etc.)

Types:

Foamy—air incorporated; yolk and white beaten separately and then folded together

Plain—whole eggs are beaten

Ingredients: 4 eggs; 2–4 tbsp milk, water, or acid juice (tomato or orange); $\frac{1}{2}$ tsp salt; seasoned with pepper

omelette A beaten egg dish that is folded before serving *See* **omelet**

omicron (O, o) Greek letter with an English equivalent of a short o

omi-zuke Cocoyam, oriental radish, and mustard leaves pickled in soy sauce

omnivore Animals that consume both plants and flesh, e.g., man, dog, pig, etc.

omole A local gin distilled from palm wine

omukimba A sorghum beer

omul (*Corcyomus autumnalis*) A Russian food fish

omulamba A millet or plaintain beer

omwenge omuganda An alcoholic beer made from bananas

oncom (ontjom) A cake made from groundnut presscake; sometimes with soybean and tapioca waste; may be deep fried or used in soup

oncom beureung (oncom merah) A red, groundnut presscake and tapioca

oncom hitam A gray, groundnut presscake and tapioca

oncom merah *See* **oncom beureung**

one hundred percent inspection All items in the inspected lot are inspected

one-metal end can An open top, molded plastic container that uses a metal end for closure

one-tailed test (one-sided test) A test of significance based on one tail (side) of the distribution

one-to-100 rule A nonnutrient substance should not be added to food in excess of 0.01 part or 1% of the amount that produces adverse effects in chronic or subacute feeding trials

one yard of flannel An English, flip-type, ale drink

ong choy A green vegetable

onion (cebolla; lunu; oignon; *Allium cepa* L.) A bulb of condimental vegetable used as food; a sulfur-containing, biennial plant whose bulb is composed of enlarged leaf-bases; the shape may be flattened globose to oval; the color may be white, dark brown, or red. Onions may be eaten as a vegetable or used to flavor other foods; they may be eaten raw, fried [oil temperature of 190–196°C (375–385°F)], boiled (whole, 15–40 min), braised, roasted, in sauces, stews, curries, pickles, and chutneys. When eaten by cattle will cause off-flavors in milk. Originated in central Asia; 8,000–10,000 seeds/oz; 12–20 day germination period; for dry onions set sets; 1 qt/100 ft row; 4 in. between plants in rows 12 in. apart; immature stems are used as green or bunching onions and the ripe bulbs are used as dry onions; harvest dry onions a few days after tops have fallen over and dried in sun. Size (increasing)

Pickling (pearl, button)—dry, white or yellow, less than 1 in.

Boiling; boilers—dry, 1–1½ in.

Larger—strong in flavor

Spanish or Bermuda—flat, mild, 2½–2¾ in.

6–10% skin as refuse

100 lb fresh = 9–11 lb, dehydrated

1 part, freeze-dried weight green onion

= 11 parts, fresh weight

1 crate (13 × 18 × 21.6 in.) green onions
= 50–55 lb

1 bu raw = 57 lb

1 sack = 50 lb

1 lb, fresh = 4 servings

= 3–4 servings, cooked

= 3 large onions

= 2–2½ cups, chopped

= 1.6 oz onion powder

1 pound, cooked = 6–7 servings

1 cup, chopped = 2 medium sized onions

= 1 large onion

= 135 g (4.8 oz)

1 cup, cooked = 200 g (6.9 oz)

1 cup, slices = 4 oz

1 cup, slices, green = 3.6 oz

1 cup, boiled, whole = 7.4 oz

1 cup, boiled, pieces = 6.4 oz

1 cup, boiled, pearl = 6.4 oz

1 cup, dried = 64 g (2.3 oz)

1 large onion, chopped = 1 cup

1 large onion, sliced = 0.35–0.6 lb

1 medium onion = ½ cup, finely chopped

1 small onion = ¼ cup, chopped

12–16 green onions, sliced = 1 cup

1 serving = 0.25–0.4 lb

1 tbsp, minced = 1 tsp, dried flakes

1 oz, raw = ⅓ oz, onion juice

= ⅓–⅒ oz, onion powder

Canned:

French fried—in rings

Stewed—whole, small size

Whole—usually packed in salt brine

Frozen (flavor decreases in potency in frozen food):

Breaded onion rings

Whole

Types:

American—medium size; round; strong; keeps well

Bermuda—large; flat; mild

Bunching (green) or ciboul or Welsh (*A. fistulosum*)

Button—small, immature onions that are normally pickled

Canary—flat

Chives—grown for leaves

Globe—most common class; used for cooking; primarily yellow skin but some white and red skin; round to oval; pungent; medium size

Granex-grano—primarily yellow skinned class but some white skin; flat to top shaped; mild; used raw and cooked; medium to large

Green onion (*A. fistulosum*)

Green onions varieties (planted in fall or early spring):

Potatoe (Multiplier)

Top (Tree)

Chives—green shoots are used

Sand leek (rocambol)—a Welsh-type onion with garliclike flavor

Shallot (scallions)—small; mild; red skinned; slightly purple flesh

Spring (scallions)—both bulb and shoot are used Welsh (Japanese nebuka)

Italian—mild

Japanese bunching—retain foliage through winter; good for flavoring; used in salads

Nebuka—perennials; small leeks

Onion potatoe—grown in Ireland

516 onion (cebolla; lunu; oignon; *Allium cepa* L.)

Pickling (button)—early stage of growth when bulbs have formed
 Polish
 Potato (underground; var. *aggregatum*)—early; reproduce by offset of the parent bulb
 Red (Italian)—purple skin; purple tinted white flesh; keeps well
 Rocambole (sand leek)—garlic-flavored species of onion
 Sand leek—Welsh onionlike
 Small (button, silver skin)—pickled
 Spanish (Bermuda; brown; sweet Spanish; Valencia)—red; primarily yellow to brown skin but some white skin; globe-shape; imported; large (3 in. or more); mild; used for slicing and salads

Spring (green, scallions)—ordinary onions; harvested young and eaten raw or in salads
 Sprouts—used in egg dishes, hamburger, hot dogs, salads
 Tree or Egyptian (*A. Canadense* var. *proliferum*)—over a meter in height; top is green; small bulbs in flowers at top of stem and large bulbs in roots
 Welsh (cibol; Japanese leeks)—perennials; no bulb; produce scallions; used like chive or spring onions; Japanese bunching onion, ciboule; bulbs are elongated and only slightly swollen
 White—mild flavored
 Wild (*A. cernuum*)

Onion variety	Color	Shape	Size	Season	Use
Beltsville Bunching		Slight swelling bulb		65 days—seed, bunching	Bunching green onions
Bronze		Globular	Large		Mild
Canada Maple		Round		98 days—seed	Stores well
Crystal Wax (White Bermuda)	Light yellow—white skin, white flesh	Thick, flat	Medium—large	90 days—seed	Home, market, dry
Early Harvest (F1)				Early	
Early Yellow Globe					Storage, dry
Ebenezer		Globe		105 days	Mild, Storage
El Capitan		Globular	Large		Mild
Evergreen White Bunching	White	Long, leeklike	Medium for shape	120 days—seed	Bunching, green onions
Exporter		Globe		100 days—seed	
Fiesta		Globular	Large		Mild, dry
Granex 33 Hybrid	Light yellow	Thick, flat	Large	80 days, 162 days—seed	Mild, dry, storage
Golden Beauty		Globular	Large		Mild
Michigan Yellow Globe	Yellow			100 days—seed	
Northern Oak	Oak		Large	108 days—seed	Storage
Patti King	Brown skin, white flesh	High globe	Large		Burger, salad, vegetable, storage
Perfection		Globular	Large		Mild
Red Hamburger	Dark red to center	Flattened	3–4 in.	100 days	Salad, burger
Ringmaster (French Fries)	White	Globe		110 days—seed	Good rings, storage
Riverside Sweet			Large	115 days—seed	Storage
Spanish					
Snow White	White	Globe	Medium	105 days—seed	Storage
Southport Red Globe	Red skin, white flesh tinged with pink	Round	Medium	110 days—seed	Storage, sets
Southport White Globe	White		Large	65 days—seed, bunching	Bunching, large, storage
Southport Yellow Globe					Storage
Spano Hybrid	Yellow	High globe	Large	95 days, early	
Spartan Sleeper	Yellow skin, white flesh	High globe	Medium	110 days—seed	Storage, dry

(Continued)

Onion variety	Color	Shape	Size	Season	Use
Stuttgarter	Yellow			120 days—seed, set	Sets
Sweet Spanish	Yellow skin, white flesh	Globe	Large 4–6 in.	110 days—seed	Raw, cooked
Yellow Utah	White			100 days—seed, sets	Sets
White Ebenezer	White			60 days—seed	Bunching
White Lisbon	White	Flat	Large	110 days—seed	Pickling, bunching
White Portugal (Silver Skin)	White flesh	Round	Large	65 days—plant, 110 days—seed	
White Spanish	White	Long white stem, bunching, mature—round	Mature, large, 5.5 in.	75 seed	Bunching, dehydration, storage, mild
White Sweet Spanish	Yellow skin, white flesh	Flat	Medium	95 days—seed	Home, mild
Yellow Bermuda	Yellow			Sets, 100 days—seed	Yellow sets, storage
Yellow Ebenezer	Yellow				Storage
Yellow Globe Danvers	Yellow skin, white flesh	Globe	Large, 6 in.	65 days—plant, 110 seed	Storage
Yellow Spanish					

Uses:

Spring dry onions—flatter, fewer skin layers; mild, sweet flavor; very perishable; store 2–3 weeks
 Summer and fall dry onions—globular, more layers of skin, firmer; more pungent flavor; store several weeks

Yellow Bermuda—large, mild, flat

Yellow Danvers—flat

Yellow Globe Danvers—firm flesh, long storage

Yellow sweet Spanish—round

Types:

Red or Brown

Benny's Red
 Early Red Creale
 Prizetaker
 Red Bermudas
 Red Giant
 Red Globe
 Red Hamburger
 Red Italian Tripoli—flat
 Red Weathersfield
 Southport Red Globe

White

Crystal White Wax—flat
 Earliest White Queen—small, round
 Southport White Globe—firm flesh, long storage
 White Bermuda
 White Granex—flat, mild, large
 White Portugal—large, flat
 White Sweet Spanish—round

Yellow

Downing yellow globe
 Early Yellow Globe—firm flesh, long storage
 Ebenezer or Japanese—flat, globe
 Southport Yellow Globe—firm flesh, long storage
 Sweet Bermuda—flat

Yellow (continued)

Utah Sweet Spanish

Composition	Dehydrated	Powder	Raw, dry	Raw, green + white part of root
Moisture (%)	4	5.0	89	88
Protein (%)	9	10.1	1.5	1
Fat (%)	1.3	1.0	0.1	0.2
Carbohydrate (%)	82	80.7	9	10
Fiber (%)		5.7		
Ash (%)	4	3.1	0.6	0.6

pH 5.3–6.0

Sodium content:

Powder—1 mg/tsp (2 g)

Salt—1620 mg/tsp (5 g)

Storage (green onions): refrigerate in plastic bags; keep moist; use in 2–3 days

Storage (mature onions): store in loosely woven (well ventilated) or open mesh container (70–75% relative humidity); will keep for several months; do not store with potatoes or under refrigeration due to higher humidity; store in cool rather than cold temperatures; freezing point, 30°F See **aspergillus black-mold rot; leek; scallion; shallot; vegetable grade**
 See Part 2: Fruit and Vegetable, Diseases; Frying Time; Glutamate; Microwave Cooking, Fresh Vegetables; Minerals, Food; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Nutrients in Crops;

518 onion (cebolla; lunu; oignon; *Allium cepa* L.)

Phosphorus; Plant Foods, Composition; Planting Density; Riboflavin, Food; Spices, Microbial Content; Storage; Storage, Dry; Storage Times; Sugar, Vegetables; Transit Temperature; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Servings; Vegetable Storage; Vegetable Yields

onion, bunching Onions picked before they develop bulbs

onion, button Small onion bulbs that have brown skin; used as garnish

onion, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	86.3	93.1
Protein (%)	3.1	1.6
Fat (%)	1.4	0.7
Carbohydrate (%)	6.7	3.4
Fiber (%)	0.4	0.2
Ash (%)	2.5	1.3

onion cheese An onion-flavored cheese used with soups, sandwiches, and salads

onion chips (onion flakes) Dehydrated, peeled, sliced onion

onion, cocktail $\frac{1}{2}$ -in., white, peeled onions preserved in a brine made with vinegar and salt

onion, cream of, canned soup

	Composition	
	Protein (%)	Fat (%)
Condensed	2.2	4.2
Condensed, prepared with water	1.1	2.2
Condensed, prepared with milk	2.7	3.8

onion, dehydrated

Forms (all may be toasted):

Chopped—visibility important

Diced— $\frac{1}{4}$, $\frac{3}{8}$, or $\frac{1}{2}$ in.; visibility important

Granulated—free-flowing products

Ground—large particle size

Large chopped—visibility important

Large slices—prime feature of product

Minced

Powdered—smooth-textured products

Sliced—prime feature of product

onion, Egyptian (*Allium cepa* var. *viviparum*)

A perennial onion that forms bulbs on the tip of the green shoots

onion flakes Dehydrated onion pieces; to rehydrate add 1 part flakes to 9 parts water *See* onion chips

onion fly A fly that is attracted by plant's scent; lays eggs on bulbs or leaves and when they hatch, they burrow into the plant

onion gravy

Composition	Dehydrated	Prepared with water
Moisture (%)	4.4	90.9
Protein (%)	9.0	0.8
Fat (%)	3.0	0.2
Carbohydrate (%)	67.7	6.4
Ash (%)	16.0	1.5

onion, green All types are sometimes called scallion
Types:

Green onion—ordinary onion harvested when young; little bulbs and tubular tops

Leeks—larger than shallots; slight bulb formation; broad, flat tops

Shallots—similar to green onions but grow in clusters

1 cup, sliced = 16 green onions

onion group Includes chives, garlic, leek, onion, and shallot

onion, Japanese bunching Onion that retains its leaves during winter; leaves and scallions are used in salads

onion oil A volatile oil obtained by steam distillation of *Allium cepa*; used as an onion flavoring agent in food; sp. gr. 1.050–1.136

Storage: full, tight, glass container in a cool, dark place

onion, potato (underground onion) An Irish onion

onion powder Pulverized, dehydrated onion; total ash 4% max.

onion salt (onion seasoning) A mixture of ground, dehydrated onion, salt, and cereal (to promote free flowing)

onion seasoning *See* onion salt

onion sets Small (up to $\frac{3}{4}$ in.), dry onions grown the previous year and used for starting plants

Storage: in pits or cold cellars

onion soup

Composition	Dehydrated	Prepared with water
Moisture (%)	3.7	96.3
Protein (%)	11.6	0.4
Fat (%)	6.0	0.2
Carbohydrate	53.5	2.1
Fiber (%)	2.4	0.09
Ash (%)	25.3	1.0

onion, tree (Egyptian onion) Grows over 1 m in height; onions develop underground and at the top of the stem; produces hot onions used in pickling and flavoring

onion, Welsh (Japanese leeks) Hardy scallion used as spring onions

onion white rot A disease that causes a white mold to develop at the base of the onion bulb that causes the leaves to yellow

on-line sampling inspection The random selection and subsequent inspection of sample units drawn from a production line

ontbijtworst A moist, cooked, smoked Dutch sausage made from finely chopped, medium seasoned beef and pork and stuffed into a pork or artificial casing

ontjom See **oncom**

See Part 2: Fungi Food Products

oo A glutinous, rice wine

oalspylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned beef and pork with pork fat added and stuffed into an artificial casing

oocyte Egg

oology The study of bird's eggs See also **egg**

oolong tea Tea made from leaves that have been semifermented before steaming, rolling, and drying (between black and green tea); semifermented has a fruity aroma, less sharp than green tea, less body than black tea.

Types:

Mainland China: brash oolong flavor

Taiwan (Formosa)—champagne of tea; pale liquor; usually not served with milk or sugar; evenly colored leaves; fruity in cup; subtle, fine taste

Oospora See Part 2: Mold, Food

oothappam A spicy, thick ceremonial dosa made from rice and yellow lentil

OP Organophosphate pesticides

opah (*Lampris regius*) A food fish

opaleye (*Girella nigricans*) A food fish

opaque maize beer A viscous, brown-colored, slightly bitter, mildly alcoholic beer

op. cit. (*Opere citato*) An abbreviation of the Latin meaning in the work cited

open Nonpregnant; not bred

open account purchase A manner of supplying credit by charging goods or services to a purchaser's account; payment is made later

open chain Carbon atoms arranged in a straight or branched chain; characteristic of aliphatic compounds

open-end order An order that specifies price, terms, and period covered, but not necessarily the quantity. Shipments are made against the buyer's release purchase orders

open interest The total number of futures contracts recorded

open kettle canning A canning method where food is cooked in a kettle, packed in hot jars, and sealed. It is dangerous because organisms may enter jars during transfer and in low-acid foods the temperature is not hot enough to destroy all spoilage organisms

open lap A container seam that is not properly soldered or solder has failed

open loin The left-hand beef loin

open sandwich A sandwich with no top layer of bread

open shoulder Shoulder blades too far apart at top

open side (beef; loose side) The left side

operating characteristic curve A curve that shows the percentage of inspected lots that will be accepted on the basis of the sampling plan for each percentage of defective items in the submitted lots

operating process A process that equals or exceeds the minimum requirements set forth in the scheduled process

operculum See Part 2: Fish Nomenclature

ophthalmia An eye infection caused by lack of vitamin A

opol A red wine

opolska A moist, uncooked, smoked Polish sausage made from coarsely chopped, medium seasoned, beef and pork with plasma added and stuffed into a beef or artificial casing

opoponax oil See Part 2: Essential Oils

oporopo Dried fish

oppenheimer A white wine

oppositely The arrangement of leaves directly across from each other on opposite sides of the stem

opsonin An antibody that increases the rate or extent of phagocytosis of bacteria or other cells

optical density Logarithmic scale used to measure opacity

$$D = \log_{10} \frac{1}{T} \quad \begin{array}{l} D = \text{density} \\ T = \text{transmission factor} \end{array}$$

$$D = xDo \quad \begin{array}{l} x = \text{thickness} \\ Do = \text{density of unit thickness} \end{array}$$

$$D = \log \frac{100}{\% T}$$

optical isomers Isomers that are mirror images of each other (enantiomorphs) occurring in compounds containing one or more asymmetric carbon atoms (sugars, amino acids). The number of enantiomorphs is the n th power of 2, where n is the number of asymmetric carbon atoms. One enantiomorph has a left-handed configuration (levo-) and the other a right-handed (dextro-) configuration. Such structures cause the plane of polarized light to be deflected to the left or right as it passes through them; however, the direction of rotation is not always the same as the structure itself. The small cap letters *D* and *L* indicate the structure of the isomers, while $+$ and $-$ are used for the direction of rotation See also **stereoisomer**; **enantiomer**

optical rotation α The ability of a substance to rotate the plane of polarized light to the right or left to an extent characteristic of the substance

option seller The selling counterpart to the purchaser of an option. Unlike the purchaser, who has all the rights but none of the obligations to fulfill the contract, the seller receives the premium and at the request of the purchaser (upon exercise) must fulfill his or her obligations under the terms of the contract. The option seller only receives the premium; therefore his or her profit is finite while risks are unlimited

520 orach

orach See **orache**

orache (*bonne damme*; **butter leaves**; **fat hen**; **French spinach**; **Mexican spinach**; **mountain spinach**; **orach**; **sea purslane**; *Atriplex hortensis*) An annual plant that has green, yellow (white), or red leaves; used as a boiled vegetable as a substitute for spinach; young leaves may be used in salad

Varieties:

Arroche blonde—pale green leaves

Arroche rouge—dark red leaves

Arroche verte—large, dark green leaves

See **orach**

orange (*Citrus*) A citrus fruit; 75% edible; a medium size evergreen that produces a globose fruit that contains 10 or more pulpy carpels; the pulp is yellow or red; originated in eastern and southeastern Asia

Types:

Bitter, brigarde, Seville, or sour (*Citrus aurantium*)—acid pulp; used for marmalade, bitters, and orange-scented flavoring

Clementine (*Citrus nobilis*)—tangerine-like; tight skin; seedless

High scented peel (*C. bergamia*)

Jaffa—large, sweet

Maltese or blood—red pulp

Mandarin (*C. reticulata*)—tangerine; satsuma; loose skinned

Navel—seedless; deep orange; round; easy-to-peel thick skin; easy to segment; navel formation opposite stem end

Sweet or China (*C. sinensis*)—used for eating

Blood—dark red or mixed color

Mediterranean—fine-grained

Navel—seedless; navel end

Spanish—large; coarse-grained

Valencia—moderate color, with part of skin turning green; thin, smooth skin; very juicy; some seeds

Tree growth:

1½ years to reach grafting stage

2 additional years in nursery before transplanting

2–3 additional years in orchard before bearing

12–30 additional years to maximum productivity

30 years produce satisfactorily

Bloom to maturity

9–10 months tropical

15–16 months subtropical

Ripening period: 1–2 months (fruit remains on tree)

If artificially colored; must be labeled “color added”

Canned style: whole segments free from membrane and seed, packed in syrup made from orange juice and sugar

Refuse (usually increases with orange size:

Halves 39–46%

Juice 53–68%

Sections 30–60%

Slices 31–46%

1 box (12 × 12 × 24 in.), FL, TX = 90 lb

1 box (11.5 × 11.5 × 24 in.), CA, AZ = 75 lb

1 bu = 36 lb

1 case, juice (24) No. 2 cans

= 0.63 box, fresh oranges

1 dozen, medium, fresh

= 6 lb

= 12 cups, sectioned (1 cup = 2.5 g or 7.5 oz)

1 dozen, medium, fresh (continued)

= 3 qt, diced

= 4 cups, juice (1 cup = 250 g or 8.7 oz)

= 1 qt, juice

1 cup, sections = 215 g (7.5 oz)

1 cup, juice = 250 g (8.7 oz)

Small—2½ in.; 5.3 oz

Medium—3 in.; 5.5 oz = 0.75 cup, diced

= 6–8 tbsp, juice

= 1 tbsp, grated peel

Large—3⅜ in.; 8.4 oz

Varieties:

California

Navel—thick skin; seedless; good flavor; can be divided into sections (Washington navel, December–February)

Valencia—late (April; can be stored on tree into summer); thick skin; seedless; good flavor; light color

Florida

Hamlin—early (November); thin skin; flatten poles; seedless; low quality

Parson Brown—early; small; seedy; lot of juice; good flavor

Pineapple—midseason (December–February); small; thin skin; seedy; good flavor

Satsuma—loose skin

Temple—excellent flavor

Valencia—late; seedless; good flavor

Varieties	Area produced
Hamlin	Florida, Texas
Parson Brown	Florida, Texas
Pineapple	Florida, Texas
Temple	Florida
Valencia	West, Southwest, Florida
Washington Navel	West

Composition	Peeled fruit	Juice	Peel
Moisture (%)	82–86	87–88	72
Protein (%)	0.7–1.3	0.5–1.0	1.5
Fat (%)	0.1–0.3	0.1–0.3	0.2
Carbohydrate (%)	12–16	9–13	25
Ash (%)	0.5–0.7	0.4	0.8
pH	3.1–4.1	2.7–4.4	

Fiber 2%; ascorbic acid 49 mg/100 g

Storage (unwrapped): Keep dry, cool, and in the dark at 85–90% relative humidity, or refrigerate (32–34°F); 8 week storage life; freezing point 28°F

See also **blood orange**; **citrus fruit**; **sour orange**; **sweet orange**

See Part 2: Ascorbic Acid; Calcium, Daily Recommendations; Calories, Daily Recommendations; Citrus Fruit Storage; Essential Oils; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Food, Composition; Frozen Food Storage; Fruit and Nut Rootstock; Fruit, Availability; Fruit, Classification; Fruit, Composition; Fruit, Harvest Dates; Fruit Juice Flavors; Fruit Storage; Iron; Minerals, Food; Niacin; Nutrients in Crops; Orange Essence Oils; Orange Oil Composition; Orange Oil Properties; Orange Structure; Phosphorus; pH Values of Biological Materials; Plant Foods, Composition; Potassium; Potassium-

Rich Foods; Riboflavin; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Storage, Dry; Thiamin; Thiamin, Daily Recommendations; Transit Temperature; Vitamin A; Vitamin A, Daily Recommendations; Vitamin C

orangeade A beverage made from the juice of sweet oranges and plain or sparkling water

orange bitters A flavoring (quinine and orange peel) for mixed drinks; the rind of bitter orange is used to make bitters, which are used to add flavor and bouquet to beverages

orange drink A simulated or diluted orange juice product; amount of juice (if any) must be on label

orange extract Made by dissolving essential oils or essences in alcohol

Type of extract	Made from	Volume of oil of orange (min. %)	Ethyl alcohol (min. % by vol.)
Nonalcoholic orange flavor	Oil of orange, oil of cottonseed	20	
Orange flavor	Oil of orange or orange peel	5	80
Orange terpeneless flavor		5	

orange-flavored oil An essential oil made from strongly scented orange flowers (blossom); used as flavoring

orange-flower water A product obtained from distillation of orange-flower oil; used as flavoring; distilled from orange blossom

orange gin An orange-flavored liqueur

orange juice 100% orange juice; juice pressed from the orange; may be flavored with the volatile oil obtained from the orange rind
Types:

Sweetened—sugar added

Unsweetened—no sugar added

Composition of concentrate: moisture 35%; solids 65%; 0.80–0.84 water activity

1 gallon = 32 (4 oz) servings

1 cup = 8.8 oz

orange, mandarin Canned in segments and packed in water or light syrup

orange marmalade
1 cup = 12 oz

orange melon See **mango melon**

orange mix, powdered See **powdered orange mix**

orange oil (sweet orange oil) An essential volatile oil expressed from peel or rind of *Citrus sinensis* L. *Osbeck* and mixed with water and alcohol; used as an orange-peel-like, food flavoring agent for food; sp. gr. 0.842–0.845

Storage: full, tight, container in a cool, dark place

orange oil, bitter A volatile oil cold-expressed from peel of *Citrus aurantium*; used as a bitter-orange-like flavoring ingredient for food; sp. gr. 0.845–0.852

Storage: full, tight, glass container in a cool, dark place

orange pekoe A leaf grade (long, thin, tightly twisted leaf) rather than type of tea; often black tea made from the first-opened leaves See also **black tea**

orange, pomace (orange pulp) Composition (without fines, dehydrated): dry matter 88%; protein 7.5%; fat 1.7%; fiber 8.5%; ash 3.7%

orangequat Hybrid between orange and kumquat

orange roughy (deep sea perch) A fat, saltwater fish

orange rust A fungus (*Gymnoconia peckiana*) disease that attacks the entire plant of blackberries and black and purple raspberries but does not attack red raspberries; common in northeast U.S.; leaves are small and yellow; produces blisterlike pustules on underside of leaves that shed reddish orange spores; canes will not blossom the following year

Control: Plant rust-free raspberries; remove and burn canes that show symptoms in the spring and thin to allow good air circulation

orange serum agar See Part 2: Microbiological Media

orange-spiced blend A spiced tea made from black tea, cloves, and orange

orange tortrix (*Argyrotaenia citrana*) A leaf-roller moth; greenish, black-headed caterpillars feed on the surface of pears

orchard A group of fruit, nut, or maple sugar trees

orchard grass (*Dactylis glomerata*) A perennial grass used for pasture or hay; seed weighs 14 lb/bu; harvest when it begins flowering; pH 5–5.5; variety, Potomac; plant 5 lb per acre
See Part 2: Seed, Germination

orchard mite See **brown mite**; **European red mite**; **McDaniel spider mite**; **pear-leaf blister mite**; **pear rust mite**; **two-spotted spider mite**; **yellow spider mite**

ordinate (y-axis) The vertical axis on rectangular coordinates

oreanda An amber, Russian, dessert wine

oregano [common marjoram; joy of the mountain; Mexican sage; origan; origano; organum; origany; pizza herb; pot marjoram; wild marjoram; winter sweet; *Origanum* spp.; *O. vulgare*; Greek oregano (*Origanum heracleoticum*)] A tall (3 ft), perennial (90 days), herb of the mint family; its light green leaves ($\frac{5}{8}$ in. in length) can be used fresh or dried; available whole and medium grind forms for use in seasoning (especially in Italian, Mexican, and Spanish cooking), tomato dishes, vegetables, salad dressing, meat sauces, pasta, and chili powder.

Types (different plants):

Mediterranean—mild; preferred in European cooking, pizza, and Italian cooking

Mexican—strong; darker color; pungent; preferred in chili powder and Mexican cooking

Source: Greece, Mexico, Turkey

522 oregano

Some call *Origanum vulgare* the original; oregano is similar to marjoram in flavor, but stronger than sweet marjoram

1 tbsp, dried whole = 3 tbsp, minced fresh

Composition: moisture 7-8% (10% max.); protein 10-12%; fat 9-11%; carbohydrate 64-65%; fiber 11-17%; ash 7-8%; average volatile oil 3% volume/weight (2.8% volume/weight minimum)

oreo cookies

1 cup, coarsely crushed cookies = 12 cookies

organ A functional unit of body, e.g., heart, liver, stomach, etc.

See Part 2: Organ Weights

organelle Structured components within cells whose function are analogous to those of organs, e.g., mitochondria, Golgi complex, lysosomes, ribosomes, centrioles, etc.

organic 1) Pertaining to organs. 2) Chemicals containing carbon

organic acid A carbon-containing acid with one or more carboxyl groups

See Part 2: Organic Acids in Fruits and Vegetables

organic chemistry Study of carbon-containing compounds, except oxides of carbons and metallic carbonates

organic farming Farming that uses only organic fertilizers and avoids use of inorganic agricultural chemicals and herbicides

organic food Food grown on soil treated only with organic fertilizer (e.g., manure, garbage, compost)

organic matter Dead, organic material of plant or animal origin; essential for soil to have good structure; increases water-holding capacity, prevents drying, and releases nutrients for plant growth

organism A life-form that carries on life function by means of organs or mutually dependent parts

organoleptic A test of a food product evaluated by a sense perception (feeling, hearing, sight, smell, or taste). In food analysis the term has been replaced by the words "sensory evaluation" or "psychophysics"

See also **sensory**

organology A microscopic study of body organs

organophosphate A group of insecticides that are phosphoric acid esters; they are highly toxic but not persistent See also **parathion**

orgeat A syrup emulsion of almonds

oriental A white, brined cheese made from sheep's milk

oriental eggplant See **eggplant**

oriental fruit moth (*Grapholitha molesta*) The adult is an inconspicuous gray moth with a $\frac{1}{2}$ -in. wingspan. The host is the peach, nectarine, plum, pear, apple, and quince.

Damage: larvae feed inside stone fruit; pinkish white, $\frac{1}{2}$ -in. worms with brown heads burrow into deciduous fruit and into twigs and new shoots and kill them

Control: insecticide, e.g., carbaryl

oriental garlic chives Grown and used like chives except leaves have a slight garlic flavor

orifice Entrance

organ See **oregano**

origanum oil, Spanish A volatile oil obtained by steam distillation of *Thymus capitatus* herb; used as a thyme-like flavoring agent for food; sp. gr. 0.934-0.960

Storage: full, tight, glass container in a cool, dark place

origany See **oregano**

origin Stationary (or fixed bone) attachment of a muscle

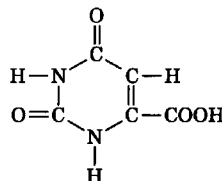
orkney cheese A creamy, cheddar-like cheese made from cow's milk and that is sometimes smoked

ormer (*Haliotis tuberculata*) A gastropod mollusk See **abalone**

ornithosis (psittacosis) Parrot fever, which can infect other fowl and be transmitted to humans

oropesa See **estrella**

orotic acid



Growth factor for some microorganisms; used in the synthesis of cytosine

Orpington An English class of chickens with white skin that lays a brown-shelled egg

Varieties: black, blue, buff, white,

orris oil A semisolid oil distilled from the Iris plant

See Part 2: Essential Oils; Flavoring Agents, Natural

orris root oil A volatile oil obtained by steam distillation of rhizomes of *Iris pallida* Lam; used as a food flavoring agent; melting point 38-50°C

Storage: full, tight, glass container in a cool, dry place

orsieres A semihard, wheel-shaped, full, fruity flavored cheese made from cow's milk

ortanique An orange hybrid with flattened fruit; a cross between orange and tangerine

ortho- 1) In organic compounds, the number 2 position on the benzene ring. 2) In inorganic compounds indicates maximum state of hydration

orthophosphate A phosphate in maximum state of hydration

See Part 2: Phosphate

orthotolidine An indicator for chlorine residual

orthotolidine $\xrightarrow[\text{or chloramines}]{\text{oxidized in acid by chlorine}}$ yellow color

Divalent manganese interferes and increases reading obtained

orts Fragments of feed refused by an animal

orviento A White wine from Umbria (central Italy)

Types:

Abboccato (semisweet)—light and noncloying

Secco—dry, well balanced, and flowery bouquet

orvieto A dry of sweet, white wine

Os Symbol for the element osmium

os Bone; mouth

o's O-shaped pastas

Small o's— $\frac{1}{8}$ in. diameter

Large o's— $\frac{1}{4}$ in. diameter

osage melon A round, gray melon that has pink or green flesh *See melon*

osage orange A tree that is a source of excellent firewood; 33 million Btu/cord (20% moisture); difficult to start; easy to split; light smoke; excellent coals; few to many sparks

os calcis *See tuber calcis*

os coxae *See ossa coxarum*

-ose A suffix meaning sugar

-osis A suffix meaning disease of or abnormal increase

osmazone The part of meat that is soluble in cold water

osmics The science of smell

osmium (Os) A metallic element; at. no. 76; at. wt. 190.2; Group VIII of Periodic Table; oxidation states +3, +4;
electron configuration 2-8-18-32-14-2
orbit K L M N O P

osmo- A prefix meaning impulse

osmophile An organism that can live in high osmotic pressure

osmophilic *See Part 2: Spoilage, Carbohydrate Foods*

osmosis The passage of fluid (usually water) through a semipermeable membrane into a solution of higher concentration to equalize the concentration on both sides of the membrane; the passing of a fluid through a semipermeable membrane into a solution where its concentration is lower and thus the concentrations on each side of the membrane are equalized; a force called osmotic force or pressure is generated. Additives that generate a higher osmotic pressure are useful in the food area because they:

Cause a pickling solution to penetrate food

Reduce shrinkage

Aid in size recovery

Lower water activity and help control bacteria *See osmotic pressure*

osmotic pressure The force caused by osmosis; pressure created by the total number of ions and molecules dissolved in water; the pressure at which a solvent passes through a semipermeable membrane; it varies

directly with differences in solute concentrations; directly related to freezing and boiling point

Moles dissolved	In water (l)	Osmotic pressure atm.	lb/in. ²
1	22.4	1	15
1	1	22.4	336

See osmosis

ossa coxarum The pelvic bone

ossein Bone collagen produced by decalcifying the bone

ossetin *See tuschinsk*

ossetin cheese A Russian cheese made from sheep's or cow's milk

ossification The formation or calcification of bone

ossify To become bone-like

See Part 2: Bone Age

ossobuco (ossi buchi) Braised veal shank

ost Cheese

osteo- A prefix meaning bone

osteology The study of bones

osteomalacia Softness of the bone; a disease caused by the removal of calcium and phosphorus from mature bones; caused by a deficiency of calcium, phosphorus, or vitamin D

osteoporosis Abnormal porousness or rarefaction of bone; porous bones due to depletion of calcium

ost(i)epak An ovoid, smoked, provola-type cheese made from sheep's milk

ostrich A large, flightless bird
1 average bird = 60 pounds meat
= 40 pounds fat

osumashi A clear soup

oswego A cheddar cheese

oswego tea *See bergamot*

oszepek An ovoid, smoked, provola-type cheese made from sheep's milk

OTA Office of Technology Assessment, U.S. Congress

otaheite apple (malay apple) A pink or red, pear-shaped fruit with a rose flavor *See ambarella*

otaheite plum *See ambarella*

o toso A thick, creamy, rice wine

Ottotan A variety of soybean

ou A glutinous, rice wine

ounago A fish sauce made from shrimp (*Mysis*)

ounce (apothecary) A measure of weight (same as troy ounce)

524 ounce (avoirdupois or avdp.)

ounce (avoirdupois or avdp.) A measure of weight

- 1 avdp. ounce (oz avdp.)
 = 2.8350×10^4 milligrams (mg)
 = 437.5 grains (gr)
 = 28.349527 grams (g)
 = 21.875 scruples (apothecary)
 = 18.22917 pennyweight
 = 16 drams (avdp.)
 = 7.29167 drams (troy; apothecary)
 = 0.911,458, 3 troy or apothecary ounce (oz troy; apothecary)
 = 0.075954861 troy or apothecary pound (lb troy; apothecary)
 = 0.06250 avdp. pound (lb avdp.)
 = 0.028350 kilogram (kg)
 = 0.00003125 net-short ton (2000 lb)
 = 0.00002835 metric ton (1000 kg)
 = 0.00002790 gross-long ton (2240 lb)

16 oz = 1 lb See **Volume; Weight**

ounce (Brit. fluid; Imperial fluid) A measure of volume

- 1 ounce (Brit. fluid)
 = 480 minims (Brit.)
 = 461.160 minims (U.S.)
 = 28.4121 milliliters (ml)
 = 8 drachms (Brit. fluid)
 = 7.6860 drams (U.S. fluid)
 = 1.73457 cubic inches (in.³)
 = 0.9607 ounce (U.S. fluid)
 = 0.07506 gallon (U.S.)
 = 6.250×10^{-3} gallon (Brit.)
 = 1.0033×10^{-3} cubic foot (ft³)
 = 2.3828×10^{-4} barrel (U.S.)

ounce (fluid ounce; U.S. apothecary measure; U.S. fluid) A measure of volume

- 1 fluid ounce
 = 499.61 minims (Brit.)
 = 480 minims (U.S.)
 = 29.574 cubic centimeters (cm³)
 = 29.5729 milliliters (ml)
 = 8 fluid drams (U.S.)
 = 1.80469 cubic inches (in.³)
 = 1.0409 ounces (Brit. fluid)
 = 0.0625 pint (liquid)
 = 0.03125 quart (U.S. liquid)
 = 0.029573 liter (l)
 = 7.8125×10^{-3} gallon (U.S.)
 = 6.5053×10^{-3} gallon (Brit.)
 = 1.0443×10^{-3} cubic foot (ft³)
 = 2.48×10^{-4} barrel (U.S.)

ounce (avoirdupois)/acre Weight per unit area

- 1 ounce (avdp.)/acre = 70.063 gram per hectare (g/ha)

ounce per square inch (oz/in.²)

- 1 oz/in.² = 4309 dynes per square centimeter
 = 0.0625 pounds per square inch

ounce (avoirdupois)/square yard [oz (avdp.)/yd²]

Weight per unit area

- 1 oz (avdp.)/yd² = 33.910 grams per square meter (g/m²)

ounce troy (oz troy; apothecary ounce) A measure of weight used for weighing gold, silver, and jewels

- 1 oz troy = 3.1104×10^4 milligrams (mg)
 = 480 grains (gr)
 = 31.103481 grams (g)
 = 24 scruples (apothecary)
 = 20 pennyweight (dwt; troy)
 = 17.55428 drams (avdp.)
 = 8 drams (troy apoth.)
 = 1.0971429 avoirdupois ounces (oz avdp.)
 = 0.08333333 troy or apothecary pound (lb troy; lb apothecary)
 = 0.06857143 avoirdupois pound (lb avdp.)
 = 0.03110 kilogram (kg)
 = 0.00003429 net short ton (2000 lb)
 = 0.00003110 metric ton (1000 kg)
 = 0.00003061 gross long ton (2240 lb)

12 oz (troy) = 1 pound (troy)

ourde An esbareich-type cheese

ouri-curi wax A brown, vegetable wax from South America See **Fat and Oils, Fatty Acid Composition**

oust A semihard, full, fruity flavored cheese made from cow's milk

outbreeding The mating of unrelated animals, usually of diverse type or production qualities

out-of-the-money A call option is said to be out-of-the-money when its strike price is above the current futures price; a put option is out-of-the-money when its strike price is below that of the futures price; an out-of-the-money option is all time value and has no intrinsic value

outside chuck (top chuck) Muscles lateral to the scapula; the major ones are *triceps brachii* (long head), *infraspinatus*, *supraspinatus* See also **top chuck**

outside round (bottom round) A cut of beef consisting of the *semitendinosus* and *biceps femoris* muscles

See Part 2: Beef, Boneless Cuts; Beef Round Cuts; Meat Identification

ouzo A Greek, anisette-flavored aperitif; an aniseed (*Pimpinella anisum*) plus other herbs; sometimes including mastic (*Pistachia lentisus*); flavored, herb liqueur; becomes cloudy when mixed with water

ovalbumin See **egg albumin**

ovar A mild, Hungarian tilsit-type cheese made from cow's milk

ovary Site of egg formation in the female

See Part 2: Flower, Perfect; Gland Weights

oveji sir cheese A sheep's milk cheese with rennet added

oven An enclosed, heated chamber for baking, roasting, or drying

Temperature ranges

	(°F)	(°C)
Very slow	250–275	121–135
Slow	300–325	149–163
Moderate	350–375	177–191
Hot	400–425	204–218
Very hot	450–475	232–246
Extremely hot	500–525	260–274

over color See **ground color**

overconsumption Excess caloric or nutrient intake

overeating Excess caloric or nutrient intake

overfinishing Excess fatness

overhaul Redistribution of the cure on a curing meat product to insure a more uniform cure

overlap The distance on a can that the cover hook overlaps the body hook

overnutrition A misleading term that should be replaced by overconsumption, overeating, or excess caloric intake; pathological state resulting from an excessive intake of food, eventually causing obesity

overpackaging Packaging that exceeds the requirements of product containment and/or protection

overpressure Pressure in a retort in excess of that supplied by steam or water at a given temperature

overreach Placing the hind foot ahead of the spot from which the front foot was just removed

overrun (swell) An increase in volume due to air incorporation (whipping) during the freezing process in the manufacture of frozen desserts; in ice cream from 30 to over 100%

Ice cream	100% overrun
Gallon	5 pounds
Quart	1 pound and 4 ounces
Pint	10 ounces

overweight Weight in excess of the normal range for a given sex, age, and height

overweight kip skin A calf skin weighing between 25 and 30 lb

oviduct (fallopian tube; ovarian tube; uterine tube) The tube leading from the uterus to the ovary; usually a pair; function is to collect the oocyte, unite sperm with egg, and deliver fertilized egg to uterus

ovine Sheep

ovole A small, egg-shaped, mozzarella-type cheese made from cow's milk

ovovitellin See **vitellin**

ovulation Rupture of the graafian follicle

ovule The portion of the pistil that becomes a seed after pollination

See Part 2: Flower, Perfect

ovum The female egg that is produced in the ovary and, if fertilized, will become an embryo

owner-sampler (OS) A procedure whereby a producer weighs and samples milk over two consecutive milkings

ox A castrated bovine (*Bos taurus*); generally over 3 years of age

See Part 2: Teeth Eruption

oxalate A salt of oxalic acid. Na oxalate combines with Ca and prevents blood from clotting; Na oxalate 160 mg/100 ml blood

oxalic acid [COOH₂] A dicarboxylic acid; poisonous; used as a cleaning agent

See Part 2: Normal Solutions; Organic Acids in Fruits and Vegetables; Reagents, Normal Solutions

ox beef A steer that does not show secondary sex characteristics; a heifer with 7 or less permanent incisors

ox bile extract A purified ox gall; a food emulsifier used in dried eggs

Oxford A medium-wool, mutton-type breed of sheep that originated on south central England by crossing Cotswold rams with Hampshire ewes; it has a medium brown-to-gray face, no horns and its fleece will grade about $\frac{1}{4}$

See Part 2: Sheep Breeds

Oxford Down Former name of Oxford sheep

oxidase An enzyme that can cause oxidation of a substrate by atmospheric oxygen

oxidation Loss of one or more electrons by an element or group; addition of oxygen; removal of hydrogen; increase of positive charge; loss of negative charge; often causes color changes and rancidity in fats or food (usually objectionable flavor or taste and odor or smell and color)

See Part 2: Enzymes, Food Industry; Meat Pigment

oxidation number The number of electrons an element can transfer to another element with which it combines; also the number of electrons that must be added to or subtracted from a combined atom to restore it to its elemental state. Thus an oxidation number can be either positive or negative, e.g., that of oxygen is -2

See also **valence**

oxidative phosphorylation The conversion of inorganic phosphate to ATP by the electron transfer system

oxidized A cardboard, aldehyde, or rancid, fat-like flavor; wine that has deteriorated due to exposure to oxygen

oxidizing agent An element that gains electrons and is reduced; an agent that causes removal of electrons

oxidoreductase Enzymes that catalyze oxidation-reduction reactions, e.g., dehydrogenase, oxygenase, peroxidase

oxtail (ox joints) The skinned tail (coccyx or caudal vertebrae) of ox (beef) used for food (often soup); usually cut in $1\frac{1}{2}$ in. lengths

See Part 2: Beef Cuts and Uses

oxtail soup

Composition	Dehydrated	Dehydrated, prepared with water
Moisture (%)	4.8	93.0
Protein (%)	15.0	1.1
Fat (%)	13.6	1.0
Carbohydrate (%)	47.9	3.5
Fiber (%)	0.7	0.05
Ash (%)	18.7	1.4

ox tongue Beef tongue See **fistulina hepatica**

526 ox warbles

ox warbles Eggs laid in June by adult heel flies on the hair of cattle legs; these eggs hatch into larvae that enter the skin and travel through the body to the animal's back; they emerge from the animal's back in February to June and drop to the ground to hatch into heel flies

oxygala Yogurt

oxygen (O) A gaseous element; at. no. 8; at. wt. 15.9994; Group VIA of Periodic Table; oxidation state -2; electron configuration 2-6 orbit K L

Noncombustible, but actively supports combustion; composes 20% of air; combines with other elements to form oxides

oxygenate To aerate

oxygenation Uptake of oxygen

See Part 2: Meat Pigment

oxygenee An aniseed-flavored, herb liqueur

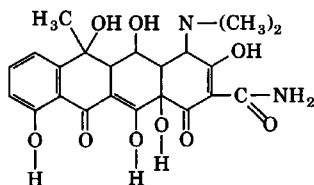
oxymyoglobin A bright red (desirable retail color) meat pigment formed by oxygenation of myoglobin
See Part 2: Meat Pigment

oxiosis Acidosis; accumulation of acid or loss of base in the body

oxystearin A mixture of stearic and other fatty acid glycerides; used as a sequestrant, defoaming agent, or crystallization inhibitor in food oils; iodine value 15; saponification value 225-240

Storage: well-closed container

oxytetracycline (Terramycin)



A broad spectrum antibiotic; mol. wt. 496.46; a drug used to promote growth, increase feed efficiency, treat various diseases (diarrhea, dysentery, enterotoxemia, and reduction of bloat), reduce liver abscesses, increase milk production, egg production and quality, hatchability, improve fertility, and liveability

See Part 2: Antibiotic Standards

oxytocin A hormone that controls milk letdown

oyako donburi A dish made from rice, chicken, and coddled egg

oyokpa A sorghum beer

oyster [*Ostrea virginica* (East Coast) or *O. lurida* (West Coast)] A bivalve, mollusk shellfish; 10-15% weight is meat (10-12% protein); a lean, marine, bivalve mollusk

Blue Point (*Crassostrea virginica*)—(American) Atlantic

Common (*Ostrea edulis*)—Europe

Dredged (*O. lutaria*)—New Zealand

Japanese (*O. laperousei*)

Pacific (*C. gigas*)

Portuguese (*C. angulata*)

Rock (*C. glomerata*)—New Zealand

South America (*O. chilensis*)

Sydney Rock (*C. commercialis*)—Australia

Western (Olympia) (*O. lurida*)—Pacific

Type and habitat

American

Eastern—Atlantic and Gulf coasts

Olympia—Puget Sound

Olympia, Western—Pacific coast

Pacific or Japanese—Pacific coast

Blue Point—Atlantic, Gulf of Mexico (large)

Cornish

Europe

Belons—France

English colchester—England

Marennes blanches—France

Marennes vertes—France

Whitstable—Europe, England

Loch Ryan

Pacific, Japanese—Pacific coast; Japan

Portuguese—Portuguese

Zealand—Zealand

Freshness: live oyster with tightly closed shell; meat clear cut and creamy colored; liquor clear

1 serving = $\frac{1}{2}$ dozen, shell oysters

= $\frac{1}{6}$ quart, shucked oysters

= $\frac{1}{2}$ pounds, shucked oysters

= 3.5 ounces, breaded oysters

1 cup, shucked = 13-19 medium select
= 235 grams (8.3 ounces)

1 pt, shucked = 24 oysters in shell

As purchased	% Yield	Ounces to purchase for one serving
In shell	12	25
Shucked	50	$6\frac{1}{2}$

Size	Count/gal	Count/lb
Eastern or Gulf		
Extra large	160 or less	20 or less
Large (extra selects)	161-210	21-26
Medium (selects)	211-300	27-37
Small (standard)	301-500	38-62
Very small	Over 500	Over 62
Pacific		
Large	65 or less	8 or less
Medium	65-96	9-12
Small	97-144	13-18
Extra small	More than 144	Over 18
Olympia	Avg. 1600	275-300

Graded for size in shell:

Half shells—smallest

Culls—medium size

Box—largest

Size	Eastern (per gal)	Pacific (per gal)
Extra large	≤ 160	
Large	160-212	≤ 64
Medium	210-300	64-96
Small	300-500	96-144
Very small	> 500	> 144

1 cup, Eastern, meat = 19–31 small or 13–16 medium = 8.5 ounces

1 cup, Pacific, meat = 6–9 small or 4–6 medium = 8.5 ounces

12 oysters, Eastern, in shell = 4 pounds

Canned in weak salt brine; listed weight is drained weight of meat; black-fringed mantle is characteristics of Pacific oyster and is caused by bed soil in areas where they are grown

Salty oyster—harvested from saltwater

Sweet oyster—harvested from freshwater

Composition	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Canned, solid and liquid		8.5	2.2	4.9	
Eastern	79–85	8.4	1.8	3.4	1.7
Frozen, solid and liquid		6.1			
Raw meat	79–85	8–11	1.5–2.5	3–6.5	1.7
Western and Pacific	79–85	10.6	2.2	6.4	1.7

pH 4.8–6.3; frying oil temperatures 177–190°C (350–375°F); there is a 10–14% fat absorption during frying; cholesterol 42 mg/3 oz raw meat; calcium 0.1%; sodium (raw) 113 mg/3 oz (85 g); sodium (frozen) 323 mg/3 oz (85 g)

Storage:

Live oyster: packed in ice in refrigerator for a maximum of 7 days; if refrigerated, will remain alive for 7–10 days

Frozen: 0°F for no more than 2 months

See Part 2: Calcium Equivalence for Milk; Calories, Daily Recommendations; Cholesterol Control; Fish and Shellfish Composition; Fish, Storage; Frozen Food Storage; Frying Time; Iron, Daily Recommendations; Minerals, Food; Portion Size; Riboflavin, Daily Recommendations; Thiamin, Daily Recommendations

oyster, Blue Point A good size oyster from Atlantic or Gulf waters

oyster cocktail sauce Contains horseradish (grated), spices, and tomatoes

oyster cracker

1 cup = 1.6 oz

oysterette A small, unleavened cracker

oyster fish See **black fish**

oyster mushroom (*Pleurotus ostreatus*) An edible fungus whose cap varies from blue-gray to brown; has a very short stem

oysternut (*Telfuria pedata*) A large, flat, vine seed used for dessert

oyster of the poor See **mussel**

oyster plant See **salsify**

oyster, poultry Oyster-shaped pieces of meat in the bone cavity on the lower part of the back of poultry

oyster sauce A fish-flavored, soy sauce made by cooking oysters in soy sauce; a gray-brown sauce made from oysters, soy sauce, and brine

oyster shell Ground oyster shells can be used for liming material and as poultry feed; for liming purposes they are similar to ground limestone but less efficient than pulverized limestone; when ground and applied to soil they supply calcium (Ca) and other minerals, reduce soil acidity, and improve the physical character of heavy soil See **baked oyster shells**; **burned oyster shells**

See Part 2: Liming Materials

oyster shell, ground (flour)

Composition (flour): dry matter 99%; Ca 38%; Mg 0.3%; Na 0.2%; Fe 0.3%

oyster stew, canned soup

Composition	Condensed	Condensed, prepared with milk	Condensed, prepared with water
Moisture (%)	89.9	88.4	94.9
Protein (%)	1.7	2.5	0.9
Fat (%)	3.1	3.2	1.6
Carbohydrate (%)	3.3	4.0	1.7
Ash (%)	1.9	1.3	1.0

ozokerite An earth wax

See Part 2: Wax

ozone (O₃) An unstable, blue gas with a penetrating odor; it is a toxic germicide and oxidizing agent; used for industrial waste treatment and for water purification

P

p See **para-**

p See **pico**

P The symbol for the element phosphorus

P₁ A position 45 mm from the midback at the 13th rib of a pork carcass

P₂ A position 65 mm from the midback at the 13th rib of a pork carcass

P₃ A position 80 mm from the midback at the 13th rib of a pork carcass

P₁ The parental generation (genetics)

PA Spoilage by putrefactive anaerobes; cans do not swell but spoilage odor is apparent; some types of these organisms are toxic, e.g., *Clostridium parabo-tulinum*

Pa Symbol for the element protactinium

paak A red or brown, salty fish paste made by fer-mentation of fish or shrimp with rice

PABA See **para-aminobenzoic acid**

Pablum The proprietary name of a prepared cereal made especially for infant feeding

pace

1 pace = 30 inches (in.)

pachwai (sonti) A rice beer

pachoucho See **jora**

Pacific butterfish A small pompano (a saltwater fish) of the west coast of North America

Pacific cod (*Gadus macrocephalus*) A food fish

Pacific flatheaded borer (*Chrysobothris mali*) A borer that attacks pear trees

Pacific halibut A finfish with white meat and a very light, delicate flavor

Pacific herring See **sea herring**

Pacific mackerel (*Scomber japonicus*) A food fish

Pacific ocean perch A finfish with light meat and a very light delicate flavor

Pacific sanddab A finfish with white meat and a very light, delicate flavor

Pacific snapper See **rockfish**

Pacific whiting A finfish with white meat and a light to moderate flavor

pack 1) To fill a container. 2) The method by which food is placed in a container (for canning), character-ized by, e.g., the temperature of the food when placed in the container (hot-pack, cold-pack) or by the method of sweetening the food for storage (sugar pack, juice pack). 3) A complete run of one product

package deal An order that groups unrelated com-modities from the same supplier in order to obtain a price concession

packaging Placing foodstuffs in individual containers that are suitable for distribution and that also protect them from bacterial contamination, moisture, and oxidative deterioration and other changes; the mate-rials most widely used are glass, metal, paper, and plastic films.

pack date The date of manufacturing, processing, or final packaging

packer One who packs food (especially meat) for market; a meat processor

packer hide A hide that has been removed by using a uniform pattern and a minimum of cuts and that has been stored under standard conditions

packer's end See **cover**

packer's-style hog carcass A pork carcass split, with jowls on carcass but head and leaf fat removed

packinghouse A plant for the slaughter, processing and packing of meat; an abattoir
See Part 2: Packinghouse By-Products, Composition

packing sow A hog that has been a brood sow

paczki A doughnut made from wheat flour and filled with rum-flavored, rose jam

padding Swinging the forefeet outward in a trot or walk

paddlefish (spadefish; spoon-billed catfish) A large (up to 100 lb), scaleless, freshwater fish belong-ing to the sturgeon family; the roe is used as caviar.

paddock An enclosed outdoor area for exercising horses; a small, fenced area used for grazing

paddy 1) Whole-grain rice; rough rice; unhulled rice. 2) A wet or heavily irrigated plot of ground on which rice is grown See **rice**

paddy whack See **back strap**

padec A dark, salty, fermented fish paste with rice bran

paderbornbrot A loose-textured (loose crumb) bread made from wheat and rye

padi-straw mushroom A type of straw mushroom

Paecilomyces A type of mold

See Part 2: Molds, Mycotoxins; Spoilage, Fat in Food

paella A Spanish fish and seafood dish that is made with rice and vegetables; a casserole made from seafood, poultry, and rice and seasoned with saffron

paella con bacalao Paella made with cod and containing min. 35% cooked meat, poultry meat, or seafood and max. 25% cooked rice

PAG Protein Advisory Group

pagano levin agar See Part 2: Microorganism, Media

paglia A soft, aromatic blue cheese made in Switzerland from cow's milk and matured on straw in caves

pago An Austrian cheese made from sheep's milk with rennet added

PAH Polycyclic aromatic hydrocarbons

PAHO Pan-American Health Organization

pai chiu A white wine

paid diversion program Direct payments made to farmers for diverting a specified acreage from certain crops into conservation uses

pai egg medium See Part 2: Microorganism, Media

pai kan A dry white wine

pain Bread

pain parisien A loaf of French bread that is larger than normal and has five lateral cuts, is 70 cm long, and weighs approximately 400 g

paio A semidry, cooked, smoked Brazilian sausage made from medium-chopped, medium-seasoned pork stuffed into beef casings

paired analysis An analysis by which two treatments can be made on essentially the same objects; there is less original variation between the two treatment areas on the same object than there is between adjacent objects.

X_1 = observation of treatment 1 on object 1

X_2 = observation of treatment 2 on object 1

n = number of objects

$$D = X_1 - X_2 \quad \bar{d} = \frac{\sum D}{n}$$

$$d = D - \bar{d} \quad \sum d = 0$$

$$d^2 = d \times d$$

$$s_D^2 = \frac{\sum d^2}{n - 1} \quad s_D = \sqrt{s_D^2}$$

$$s_{\bar{d}}^2 = \frac{s_D^2}{n} \quad s_{\bar{d}} = \sqrt{s_{\bar{d}}^2}$$

$$H_0: u_D = 0$$

$$t = \frac{\bar{d} - u_D}{s_{\bar{d}}} \quad df = n - 1$$

or

$$\bar{d} - [t_{0.05 \text{ or } 0.01}] s_{\bar{d}} \leq u_D \leq \bar{d} + [t_{0.05 \text{ or } 0.01}] s_{\bar{d}}$$

See Part 2: Paired Comparisons; Paired Taste Tests; Taste Panel, Difference Tests

paired comparison A method of testing by which a pair of coded samples is given to a panel for comparison of a specific characteristic

See Part 2: Paired Comparisons; Paired Taste Tests; Taste Panel, Difference Tests

paired-preference test A method of testing by which a panel is asked which of a pair (control and test) of samples they prefer and why

pak-choi (Chinese cabbage; pak choy; *Brassica chinensis*) The leaves of this plant are eaten raw in salads or are cooked

See Part 2: Vegetable Plants

pakling A green China tea

paklum A green China tea

pak-siam-dong Fermented leaves of *Gynandropsis pentaphylla*

paksin A broth made with vinegar and spice

pak yau A soy sauce

pala (*Macrura ilisha*) A food fish used in India

palacsinta A sweet pancake that is often made in layers with filling

paladru A cheese made from cow's milk

palamonte A mixture of acorns, sugar, spices, aromatic material, etc.

palatability A complex characteristic of a food that indicates its degree of appeal or attractiveness to the appetite and involves sensory impressions of appearance, odor, flavor or taste, temperature, sound, and texture

palatable Having an acceptable, agreeable, savory, or pleasing taste; describes a pleasant physiological reaction to the presentation and consumption of a food
See **palatability**

palate The roof of the mouth, comprised of the bony hard palate (front) and the muscular soft palate (rear); erroneously said to be a taste organ, hence the term palatable See **palatability**

pale Describes something that has weak color or that lacks pigmentation, e.g., PSE (pale, soft, exudative) pork

pale ale (light ale) An English beer with a light color (like American beer) that is darker than lager; a well-hopped, light-colored ale

pale cheese Cheese with no added color

Palestine soup A soup made from Jerusalem artichokes

palia A bitter melon

palingworst A moist, cooked, smoked Dutch sausage made from fine- or coarse-chopped, medium-seasoned beef and pork stuffed into pork or artificial casings

palladium (Pd) A metallic element; at. no. 46; at. wt. 106.4; oxidation states +2, +4; Group VIII of the Periodic Table; electron configuration 2-8-18-18 orbit K L M N

pallet A platform or skid (may be made from wood, paperboard, plastic, or metal) that is elevated at least 3 in. from the floor and is used for stacking cartons, paper stock, books, etc.; it permits the material to be moved as a single unit.

530 palm (family Palmae)

palm (family Palmae) A large family of tropical or subtropical trees or shrubs that includes the date and coconut palms

Types of palm:

- Arenga—sap used to produce sugar and arrack
- Awarra—kernel yields oil and butter
- Betel—nuts produce a red juice when chewed; leaves used to make a beverage
- Carnauba—produces carnauba wax; sap from the trunk used to produce sugar and made into vinegar
- Coconut—produces a hard-shelled nut
 - Milk—used in cooking
 - Flesh—used fresh; cooked to extract oil
 - Copra—dried flesh
- Coquito—sap used to produce sugar; seed has sweet meat; fiber used for rope
- Coquito de San Juan—produces an edible fruit
- Date—produces both hard (less popular) and soft fruit (sweet, 5 cm long, with yellow-red skin) that is used fresh or dried
- Date sugar—sap used to produce sugar and a beverage
- Deleb—produces a sweet, soft fruit
- Down—yields sap
- Gingerbread—yields sap
- Guinea—yields palm oil; kernels used for food
- Hill—yields sap; pith used to produce sago
- Ibappo—produces an edible fruit
- Ita—fruit used to produce flour
- Nipa—sap used to produce sugar
- Oil—yields palm oil; kernel used for food
 - African oil palm (*Elaeis guineensis*)—produces a hard-shelled nut that yields palm oil
- Palmyra—sap used to produce sugar
- Patava—pulp and kernel used to produce oil
- Sago—pith used to produce sago
- Sugar—sap used to produce sugar and arrack
- Toddy—yields sap; pith used to produce sago
- Tree of life—fruit used to produce flour
- Water coconut—sap used to produce sugar
- Wax—roots yield carnauba wax
- Wine—yields sap
- Yatay—shoots and fruit used for food

palmarosa oil (geranium oil) A volatile oil obtained by steam distillation of the grass *Cymbopogon martinii*; used as a flavoring agent in food; sp. gr. 0.880–0.892

Storage: full, tight, glass container in a cool, dark place

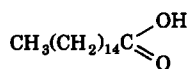
palmate (palmately) Describes lobed leaves shaped like a hand

palm cabbage (palmetto) The edible terminal shoot of the cabbage palm; available canned in oil

palmetto (*Inodes palmetto*) A palm that produces sprouts and shoots that are used as food See **palm cabbage**

palm heart (ubod) Palm-tree shoots; used like asparagus

palmitic acid (hexadecanoic acid)

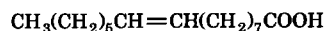


A 16-carbon saturated acid found in all animal and vegetable fats, especially in swine; used as a defoaming agent and to make other food-grade additives; iodine value 2 (max.); saponification value 204–220

Storage: well-closed container

See Part 2: Fats and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Oils, Seed and Fruit; Saturated Fatty Acids; Seed, Chemical Composition; Wheat, Fatty Acids

palmitoleic acid



A 16-carbon unsaturated fatty acid found in liver and animal fats

See Part 2: Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Unsaturated Fatty Acids; Wheat, Fatty Acids

palm-kernel oil A white or yellow oil that is extracted from the kernel of the nut or seed of a palm and that resembles coconut oil

Composition (fatty acids): capric 3–7%; caprylic 1–3%; lauric 47–51%; linoleic 1%; myristic 14–18%; oleic 16–19%; palmitic 9%; stearic 1–2%

Properties:

- Acid number—9.0
- Iodine value—14–37
- Melting point—24–26°C
- Saponification value—220–255
- Saturated fatty acid—81–87%
- Specific gravity (20°/4°C)—0.9190
- Titer—20–28°C
- Unsaponifiable matter—< 1%

See also **oil palm**

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Melting Points, Fats and Oils; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Unsaponifiable Matter

palm oil (palm butter) A red-yellow to dark red or white to yellow oil that is extracted from the pulp (pericarp) of the palm nut (or fruit); a soft solid that liquefies at about 80°F (27°C); used in hot-dip tin pots to cool the tin and to provide lubricative properties and some protection against rusting

Composition (fatty acids): linoleic 10%; myristic 1%; oleic 38–43%; palmitic 40–47%; stearic 4–6%

Properties:

- Iodine value—45–60
- Melting point—27–50°C
- Refractive index (60°C)—1.450–1.452
- Saponification value—195–205
- Saturated fatty acid—41–50%
- Specific gravity (15°C)—0.915
- Titer—40–47°C
- Unsaponifiable matter—< 1%

See also **oil palm**

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties

ties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Melting Points, Fats and Oils; Oils, Seed and Fruit; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Titer, Fats and Oils; Tocopherols; Unsaponifiable Matter

palm oil, red A viscous red oil used in palm soup and for frying; a source of carotene; the fruit of a palm (*Elaeis guineensis*) is fermented and the oil removed from the mesocarp, mixed with water, and boiled and then skimmed or the fruit may be cooked rather than fermented and the oil removed by pressure.

palm sugar See **jaggery**; **sugar palm**

palm wine A sweet, cloudy, white, often effervescent, beverage that is made from palm-tree sap, and is mildly to strongly alcoholic See **date palm**

palmyra A borassus palm; a tall tree that produces about 200 nuts per year

Parts used:

- Germinated nut—used as a vegetable
- Nut sap—used to make a beverage
- Palm sap—used to produce sugar and toddy
- Soft kernel of young fruit—eaten
- Trunk—building material

See **palm**

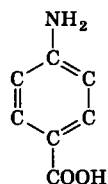
Palouse See Part 2: Swine Breeds

palpation The act of massaging tissue; usually performed on the reproductive tract of a cow to make her cycle

palpuszta A Hungarian, Limburger-type cheese

pameras See Part 2: Insect Control

p-aminobenzoic acid (PABA)



See **para-aminobenzoic acid**

pamir tura See **black tea**

pampano A food fish

Common (*Trachinotus carolinus*)
Indo-Pacific (*T. blochii*)

pampas Grassland of the temperate region of South America

pamplemousse Shaddock or grapefruit

pan- A prefix used to indicate all

panada A thick paste made of bread or bread crumbs boiled in milk or water and sometimes flavored with sugar or spices; used as a binder for stuffing

Panama A medium-wool breed of sheep that was originated in America by crossing Rambouillet rams with Lincoln ewes; this is the same cross that produced the Columbia, with the sexes reversed.

See Part 2: Sheep Breeds

panamaretto A light (aerated), breadlike, chocolate-chip fruit cake

panbroiling A dry-heat method of cooking used for the more tender cuts: The meat is placed in a heavy container through which the heat is transferred; the fat is drained off during cooking.

See Part 2: Beef, Cooking; Beef Cuts; Lamb Cuts; Pan Broiling Meat; Pork Cuts

pancake A thin (2–7 mm), flat, usually circular, fried cake made from flour, eggs, and milk, plus shortening and a leavening agent; made from wheat flour, often mixed with buckwheat, soy, or rice flour, and sometimes with potato or legume flour added; often eaten with sweet syrups or sour cream

one 4-in. pancake = 1.2 oz

Types:

American—baking powder as the leavening agent

English—ale used as the leavening agent

French (crêpe)—very thin; no leavening agent used

Contains 54 mg cholesterol per 7 tbsp batter

See Part 2: Grain Products, Composition

pancake mix A dry, commercially prepared mixture that contains most pancake ingredients; only liquid ingredients need to be added.

1 cup = 4.8 oz

Composition: moisture 8%; protein 9%; carbohydrate 75%; fat 2%

Storage: at room temperature, away from the heat of the range or the refrigerator unit

pancetta A pork belly that has been rolled, cured, and spiced; Italian cooking bacon

pancette A large sized, provolone-type cheese made from cow's milk

pancfit A mixture of cabbage, long rice, meat, and noodles

pancreas A gland attached to the gut whose secretions affect digestion; one of its alkaline secretions [0.8–1.2 l (0.9–1.3 qt) per day] contains various digestive enzymes; insulin, which regulates sugar metabolism, is also secreted; the pancreas is sometimes known as gut, belly, or stomach sweetbread (chest sweetbread is the thymus).

See Part 2: Gland Weights; Organ Weights

pancreatic juice A thick, transparent, alkaline liquid that is secreted from the pancreas and contains amylase, insulin, lipase, and trypsin

pandanus (screw pine) A fruit bearing tree; the nutlike fruit is used like chestnuts.

pandelizia A light (aerated), breadlike fruitcake made with orange peel

pandemic A widespread epidemic

pandorino A small-sized bread that sometimes contains dried fruit

pan-dressed Describes a fish that has been scaled and eviscerated, with the head and the tail fins removed

See Part 2: Fish Yields

paneddi A provolone-type cheese made from cow's milk

paneer See **panir**

panel 1) A group of observers, subjects, or judges; may be trained or untrained. 2) The flat central area of the lid or body of a can where the label is applied

panela A semisoft, mildly acidic, smooth cheese made from whole milk or partly skimmed milk. *See also* sugar cane

paneling A condition of a can with the sidewalls in a concave position (collapse), i.e., permanently drawn in; this is caused by cooling under too much vacuum.

panettone A light (aerated), breadlike fruitcake

pan-fired Formosa *See* green tea

pan-fired Japan *See* green tea

panfry To cook (fry) in a pan with a small quantity of fat

See Part 2: Beef Cuts; Lamb Cuts; Pan Frying Meat; Pork Cuts; Pork Loin Cooking; Veal Chart; Veal Cuts

pan haus (pon hoss) A coarsely chopped to chunked, cooked, unsmoked, American jellied and/or specialty sausage available in links, loaves, or canned; a food product usually containing meat

panicle A pyramidal seed head that is branched, with individual flowers attached to short stems

panir (paneer) An acid-curd, heat-coagulated, soft to semisoft, mild cheese that is eaten fresh or after a short maturation

panjabi wari Yellow, dried balls of black gram (*Phaseolus mungo*) that are deep-fat fried

panned Describes shredded or sliced vegetables that have been cooked in a small amount of fat and water on top of a stove

See Part 2: Vegetables, Panned

pannes cendrées A riccio-type cheese that is matured in wood ashes

pannonia A hard, yellow cheese that is made from cow's milk and has small holes

panocha (panoche; panouchi; penuche; penuchi) A confection made from brown sugar, milk, butter, and nuts

panoche *See* panocha

panouchi *See* panocha

pan-ready Describes a fish that has been scaled and eviscerated, with the head, tail, and fins removed

panreale A light (aerated), breadlike, sultana fruitcake

panthenol

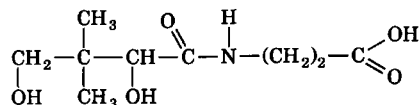


Used as a nutrient or dietary supplement; mp 64–69°C

Storage: tight container

pantli A dry, uncooked, smoked Swiss sausage (a pepperoni) made from medium- or coarse-chopped, heavily seasoned beef and pork fermented and stuffed into beef, pork, or artificial casings

pantothenic acid (B₅; filtrate factor; gray-hair vitamin; vitamin B₅)



A vitamin; deficiency causes chick dermatitis and loss of hair color

Sources:

Dairy products
Egg yolks
Green leafy vegetables
Muscle meat
Rice polishings
Variety meats
Yeast

The name is derived from the Greek word meaning "from anywhere," indicating its widespread occurrence. Pantothenic acid is often sold as sodium or calcium pantothenate.

Percentage of the activity of naturally occurring pantothenic acid: *dl*-calcium pantothenate 47%; *dl*-calcium pantothenate-CaCl₂ 37%

See Part 2: Cheese, Vitamin Content; Egg Products, Nutritive Value; Grain Analysis; Milk and Milk Products, Vitamin Content; Milk Composition; Pantothenic Acid Content; Seed, Chemical Composition; Vitamins; Vitamin Sources, Functions, and Stability; Wheat, Parts of Grain, Vitamins; Wheat Products, Composition; Wheat, Vitamins

panyon A black China tea

pap Soft food; baby food

papa *See* agidi

papad *See* papadam

papadam (papad; papar; poppadam) Thin, crisp, dried sheets made from legume, cereal, or starch flour

papain A plant enzyme [latex of the fruit of the pawpaw, or papaya (*Carica papaya*)]; obtained from green papaya melons and used as a tenderizing agent for meat; activity is slow at room temperature, increases at 55–57°C, is optimum at 65–80°C, and ceases at 90°C.

1 NF unit = 1 μg tyrosine released from a specified casein substrate

6000 NF units/mg

Also used for clearing beverages and to decrease cooking time of farina

Storage: tight container in a cool, dark, dry place

papar *See* papadam

paparah segundana Thin, crisp, dried sheets made from a starch crop or sago flour

papa seca A flour made from ground nonbitter potatoes

papaw (*Asimina triloba*) A North American tree that produces a purple-skinned, banana-shaped (2–6 in. long) dessert fruit with dark brown to yellow pulp (the stone often produces an off flavor); similar to a custard apple with yellow pulp and a soft texture; it is not the same as a papaya (pawpaw) *See* papaya

papaya (pawpaw; *Carica papaya*) An American tropical evergreen tree (umbrella-like stalk, similar to

a palm tree) that produces a large, elongated, melon-like fruit with green, yellow, or orange skin and pink to orange, pulpy (sometimes resembles butter) flesh; the black, glossy seeds are edible, are enclosed in a central cavity, and have a pungent flavor (which is considered to add panache to green salads and dressing); the fruit is high in vitamin C, and unripe fruit contains papain.

Parts used:

Fruit

Ripe—eaten raw (7–9% sugar)

Unripe—boiled as a vegetable

Mountain pawpaw—cooked before eating; used to make jam

Leaves—used to wrap meat (for tenderization)

White latex—obtained by cutting the surface of the fruit; dried to yield the enzyme papain

Equivalents:

1 lb, cubed = $2\frac{1}{3}$ cups

1 cup = 150 g

1 cup, cubed = 6.4 oz

To ripen: keep at room temperature until fruit is golden and gives off a fruity aroma; does not keep well (juice is a popular form for commercial distribution)

Storage: 45°F; 85–90% relative humidity; storage life 2–3 weeks; pH 5.2–5.7

See **anthracnose**; **stem-end rot**

See Part 2: Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Storage; Plant Foods, Composition

papaya syrup Made from the pulp and juice of the papaya fruit

Uses:

Drink—with carbonated water; with milk; with water

Filling—cakes and pies

Topping—for desserts and salads

papeda A citrus fruit with a thick skin and a sour pulp

paperboard (Incorrectly called cardboard) paper sheets with thickness 0.012 in. (12 points) or more

paperflower A plant having a toxic principle

See Part 2: Poisonous Plants

paperless purchasing A purchasing operation that does not employ purchase requisitions or hard-copy purchase orders

papilla (papillae) 1) Any of variously shaped structures on the tongue that contain the taste buds

Kinds: circumvallate; filiform; foliate; fungiform

2) Connective tissue at the base of and projecting into the hair follicle. 3) Fingerlike projections in the inside of the rumen.

papillote Baked in white parchment paper

pappadam A crisp, wafer bread made from pulse or lentil flour

paprica See **paprika**

paprika (papprika; paprica; sweet pepper; *Capsicum annuum* L.; *C. frutescens* var. *grossum*; *C. frutescens* var. *tetragonum*) The whole or ground, ripe fruit pods (usually red) of European types of sweet, mild pepper (*Capsicum* spp.); used in seasoning and as garnish; red in color and sweet to

the taste

Spanish—mild, sweet; called **pimiento**

Hungarian—pungent

A natural food additive that is used to flavor (sweet to pungent) and color (red-orange) food; sold under designations determined by the amount of extractable color (in color units) as measured by American Spice Trade Association (ASTA) methods; often between 80 and 200 (normal 120–140 and many times higher for oleoresin, e.g., 80,000); Hungarian ASTA 100; Spanish ASTA 100

Terms:

Extractable color—the color paprika will impart to food

Surface color—the apparent color of the powder; influenced by grinding (the finer the grind, the lighter the color)

Types:

American—sweet and mildly pungent

Bulgarian—sweet and nonpungent; small quantity of pungent produced

Chilean—sweet and mildly pungent

Czechoslovakian—sweet to mildly pungent

Greek—slightly pungent to pungent

Hungarian—usually pungent; some is sweet

First-quality grades—special paprika; table-quality mild paprika (nonpungent); table-quality paprika (mildly pungent); “hot” table paprika; sweet paprika

Second-quality grades—semisweet paprika

Third-quality grades—pink (rose) paprika; pungent paprika

Moroccan—similar to Spanish; medium to high color; mild to mildly pungent

Portuguese—sweet; medium to high color

Doce-Extra—made from pericarp only; rich red color

Doce-Superior—some washed seeds may be used; less intense red

Romanian—slightly pungent to pungent

Spanish—usually mild and sweet

Spanish types and quality	Composition	Color
Dolce, or Sweet		
Extra	Pericarps of first-quality fruit	Rich red
Select	Pericarps and seeds (max. 10%)	Intense red
Ordinary	Up to 30% seeds	Brick red
Agridulce, or Semisweet		
Extra	Pericarps of first-quality fruit	Rich red
Select	Pericarps and seeds (max. 10%)	Intense red
Ordinary	Up to 30% seeds	Brick red
Picante, or Pungent		
Extra	Pericarps of first-quality fruit	Rich red
Select	Pericarps and seeds (max. 10%)	Intense red
Ordinary	Up to 30% seeds	Brick red

Turkish—slightly pungent to pungent

Yugoslavian—similar to Hungarian; good color; slight pungency
 Quality: Noble (sweet); Semisweet; First (rose); Second (strong); Third (commercial)
 Standards:

Moisture—8–12% max.
 Ash—5–12% max.
 Acid-insoluble ash—0.3–4% max.
 ASTA color units—110 min.
 Nonvolatile ether extract—18% max.
 Crude fiber—17–23% max.
 Ether-soluble extract—6–17% max.
 Capsaicin—0.01–0.1%

Ground extra fine; made by grinding the pods of dried, ripe sweet peppers

Composition: moisture 9–10% (11% max.); protein 14–16%; fat 12.5–13.5%; carbohydrate 55–56%; fiber 20–22%; ash 6.5–7.5% [6% max. (Rosen), 6.5% max. (Koenigs)]; HCl-insoluble ash 0.4% max. (Rosen), 0.5% max. (Koenigs); volatile oil 0.1–2.6%
 Fixed oil content: pericarp 4.5–6.5%; seeds 19–27%; stalk 1–2.6%; whole fruit 9–16%

See **capsicum**; **pimiento**

See Part 2: Colors Permanently Listed; Spices, Microbial Content

paprika oleoresin A natural food additive used to color (red-orange) food; a deep red, viscous liquid obtained by solvent extraction (acetone, dichloroethane, trichloroethane) of the pods of *Capsicum annuum* and subsequent removal of the solvent; 12,000–100,000 ASTA color units

1 kg = 12–15 kg paprika powder

Available forms: free-flowing; on carriers

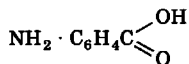
paprikash Seasoned with paprika

paprikon azalami A pepperoni made from beef and pork

paprikupylsa A moist, cooked, unsmoked Icelandic sausage made from finely chopped, medium-seasoned beef and pork, with pork fat added, stuffed into artificial casings

para- 1) In organic compounds, the number 4 position on the benzene ring. 2) A prefix used to indicate beside

para-aminobenzoic acid (PABA) A dietary factor that prevents the development of gray hair in mice, dogs, and foxes on purified diets



See **p-aminobenzoic acid**

paraben See **para-hydroxybenzoic acid**

paracasein The product that is formed when casein is acted on by chymosin in cheese making

Paracolobactrum See Part 2: Microorganism Reactions on Differential Tube Media

Paracolon See Part 2: Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar

paradise nut See **souari nut**

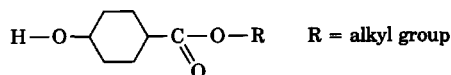
paraffin (paraffin wax) ($\text{C}_n\text{H}_{2n+2}$) A (colorless or white) solid mixture of aliphatic hydrocarbon residues obtained from petroleum; average melting range 50–57°C (other melting points available); density 0.90;

used as protective coating for cheeses, for waxed paper, and to seal jellies and jams [melt paraffin in double boiler, pour one layer ($\frac{1}{8}$ in.) over product, and prick air bubbles]

See Part 2: Wax

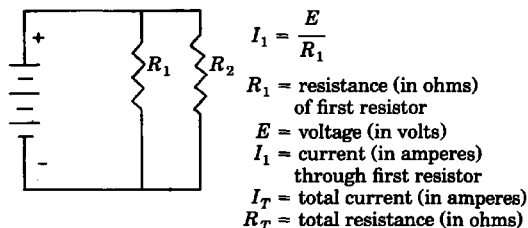
Paraguay tea See **mate**

para-hydroxybenzoic acid (and esters, paraben) Antimicrobial agents used in food, cosmetics, and pharmaceutical products



parakeratosis An abnormality of the outer layer of the skin

parallel circuits The potential drop ($E = IR$) is the same across each resistor:



$$I_T = I_1 + I_2 + \cdots + I_n$$

$$R_T = \frac{E}{I_1 + I_2 + \cdots + I_n}$$

$$= \frac{E}{E/R_1 + E/R_2 + \cdots + E/R_n}$$

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \cdots + \frac{1}{R_n}$$

$$R_T = \frac{(R_1)(R_2)}{R_1 + R_2}$$

Potential sources can be connected in parallel to increase the current; however, they must be of equal voltage.

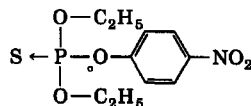
paralysis Loss or impairment of voluntary motion

paraná See **Brazilian parana**

paraquat See Part 2: Corn Herbicides

parasite An organism that lives in or on (i.e., an internal or external parasite) a host and at the expense of the host, i.e., it draws nourishment from the host (plant or animal) without contributing to the well-being of the host.

parathion A poisonous, organic phosphorus agricultural insecticide that inhibits the enzyme cholinesterase, but is biodegradable



parathyroid glands Four small glands located close to the thyroid gland; their secretions regulate the blood and nervous systems.

paratyphoid A food poison

See Part 2: Illness from Food; Infectious Diseases, Food-Borne

parboil To boil food until partially cooked See also precook

parboiled rice Rice that is heat-treated or steamed under pressure and dried prior to hulling and milling; it has greater retention of vitamins and minerals than polished rice.

parboiled wheat See bulgur

parch To dry or brown by dry heat, without fat

pare To cut off the outer covering or skin of a fruit or vegetable See also peel

Parein's Tuc A cracker, usually made without sugar

parenchyma 1) The tissue that makes up the pulp of fruits and the pith of stems. 2) The functional part of an organ

See Part 2: Wheat Kernel Parts

parenicia A Hungarian cheese made from sheep's milk

parenica A string cheese made from sheep's milk and often lightly smoked

pareve (parve) A Jewish cooking term describing a product made without milk, meat, or their derivatives; a neutral food; vegetables, fruit, eggs, fish, and all other nonmeat and nonmilk foods; a natural product that may be used with either meat or dairy foods

parfait 1) An excelsior-type cheese. 2) A frozen dessert made from egg and whipped cream or ice cream topped with syrup and whipped cream; a combination of well-beaten egg yolks or whites, heavy syrup, and whipped cream, frozen without agitation; alternate layers of ice cream and fruit or syrup, usually served in a tall, slender glass

parfait amour A sweet liqueur flavored with flowers (usually violets), spice, and orange

paria (ampalaya; palia) A bitter melon

pariser 1) A moist, cooked, smoked or unsmoked Austrian sausage made from finely chopped, mildly seasoned (with nitrite) beef and pork stuffed into artificial casings with a diameter of greater than 60 mm. 2) A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned (with garlic) beef, not stuffed into casings

Paris green (copper acetoarsenite; Schweinfurt green) $[(\text{CuO})_3\text{As}_2\text{O}_3 \cdot \text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2]$ A poisonous insecticide

parity 1) A level of purchasing power equal to an earlier base period (usually 1910-1914); the ratio between the prices farmers receive and the prices they paid in some base period (which may be a specific year or a moving base, such as the average of the last 10 years). 2) A fair price plus a reasonable profit. 3) The number of previous litters

parity index The index of prices for items used in production, interest, taxes, and wages rates

parity price The price for an item that would give the buyer the same purchasing power as in a base period

parity ratio The ratio of the prices received to prices paid

pariza A moist, cooked, smoked Greek sausage made from medium-chopped, medium-seasoned beef and pork, with 40% precooked meat pieces in the paste, stuffed into an artificial casing

Parker A variety of bird's-foot trefoil

parma ham A country-cured (10-18 months) ham flavored with pepper, allspice, mustard, and coriander and rubbed with pepper; produced in Italy

parmentier Potato soup

parmesan cheese (lodigiano; reggiano) A pale yellow, hard, dry, sharp grating cheese made from cow's milk; an aged (1-4 yr) hard grating cheese from Italy, made from skimmed milk, using a starter of *Streptococcus thermophilus* and *Lactobacillus bulgaricus* or *L. lactis*, with rennet added; the curd is scalded, not textured, and pressed; used in cooking and salads; it is dark green to black on the outside and has a creamy white to light yellow interior. It is sold in a cylindrical shape and has a mild to sharp, piquant, nutty flavor; it is grated for use.

1 cup, grated, loosely packed = 3.7 oz

1 cup, grated, pressed down = 4.9 oz

Composition	Grated	Hard
Moisture (%)	17.7	29-31
Protein (%)	41.6	35-38
Fat (%)	30.2	25-28
Carbohydrate (%)	3.7	3-4
Fiber (%)	0	0
Ash (%)	7.0	5-6

Salt 1.8% (sodium 454-528 mg/oz); pH 5.2-5.3; 25 calories/tbsp; 130 calories/oz

Similar cheeses: bagozzo; bresciano; emiliano; lodigiano; lombardy; parmigiano; reggiano; veneto; venezza

Storage: wrap tightly and refrigerate; will keep several months; cut off mold if it develops.

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Glutamate; Milk and Cheese, Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

parmigiana, alla 1) Food prepared in style of Parma. 2) Food prepared with parmesan cheese

parmigiano A semihard cheese with mellow flavor

parmigiano reggiano A type of parmesan cheese made from cow's milk

parnossus A white cheese made from ewe's milk

parorexia A craving for unusual foods or for things not normally considered food

parowki (hot dog) A moist, cooked, smoked Polish sausage made from finely chopped, medium-seasoned beef and pork, with textured vegetable protein (TVP) stuffed into sheep or artificial casings

parr A young salmon (less than 1 yr old) before it leaves fresh water

parrot fish (*Leptoscarus* spp.) A food fish

parrot mouth A mouth formation in which the upper teeth extend over the lower teeth

536 parsec (pc)

parsec (pc) A measure of distance (astronomy)

1 pc = 3.084×10^{13} kilometers (km)

= 1.9×10^{13} miles (mi)

parsley (*Petroselinum hortense*; *P. sativum*) A biennial or perennial 1-ft plant that is often grown as an annual; the leaves (curled or plain) are used for garnishing and seasoning foods; a cool-season glabrous biennial; it may be used fresh, dried, or freeze-dried (1–3% moisture, fresh-weight replacement 1:9) and added to omelets, potatoes, salads, sauces, soups, or stuffing; often used chopped ($\frac{1}{4} \times \frac{3}{8}$ in.) or minced (100%, no. 5 US screen); 15,000 seed/oz; seed $\frac{1}{2}$ oz/100-ft row; germination period 10–21 days; transplant 5 in. apart in rows 16 in. apart; matures in 70 days; yield 75 bunches/100-ft row

Types:

Celery-leaved or Neapolitan—not common in the United States

Curled or double [*P. hortense crispum*] double curled, moss curled—not common in the United States

Varieties—Forest Green; Paramount; Perfection; Triple Moss Curled

Fern-leaved (*P. hortense filium*)—occasionally grown

Fool's—a wild variety that is poisonous

Hamburg or turnip-rooted—similar in appearance to plain-leaved but both leaves and roots are eaten

Root—boiled and eaten like parsnips

Plain-leaved (Italian or common)—superior mild flavor when cooked

Varieties—Dark Green; Italian; Single

Parsley variety	Season	Foliage	Use
Bravour	75 days	Long stem; heavy head	Home garden
Champion Moss Curled	80 days	Finely cut; curled; deep green	
Compact Curled	70 days	Dwarf; dark green; tightly curled	
Curlina	72 days	Triple curled; dark green	Fresh
Darki	77 days	Dark green; tight; heavily curled	
Evergreen	70 days	Deeply fringed; curled	
Extra Curled Dwarf (Emerald)	85 days	Curled; dark green	
Hamburg (parsnip-rooted)	90 days	7-in. tapered root	
Moss Curled	70 days	Very curly; dark green	
Paramount	70 days	Dark green; triple curled	
Plain or Single (Italian)	72 days	Dark green; deeply cut; celery leaf	

Can be stewed and eaten as a vegetable; roots can also be used as a strong-flavored vegetable or flavoring; oleoresin and oil (from steam distillation of ripe seeds) are used as flavoring.

1 small bunch parsley = 5–6 tbsp, minced

1 tbsp = 4 g

Composition	Dried	Raw
Moisture (%)	9–10	85
Protein (%)	22–23	3.6
Fat (%)	4–5	0.6
Carbohydrate (%)	51–52	8
Fiber (%)	10–11	
Ash (%)	12–13	2

Sodium 6 mg/tbsp [(1 g) dried]; pH 5.7–6.0

See Part 2: Essential Oils; Minerals, Food; Planting Density; Sugar, Vegetables; Unsaturated Fatty Acids; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Yields

parsley butter Made using the following procedure:

1. Soften $\frac{1}{2}$ stick of sweet, unsalted butter.
2. Add 1 tbsp finely minced fresh parsley or $\frac{1}{2}$ tsp dried parsley.
3. Cream together, adding a few drops of lemon juice.

parsley, dehydrated Available in the following forms:

Extra-fancy flakes—used when larger pieces are needed as a garnish

Large extra-fancy flakes—used when larger pieces are needed as a garnish

Powder—used in smooth-textured products

Minced—used when bright flakes are important

parsley, Hamburg (Jew's root; turnip-rooted parsley; *Petroselinum fusiformis*) A variety of parsley with a turniplike root that is used (like parsnips or carrots) as a vegetable; the leaves are used like spinach and parsley

parsley jelly Made using the following procedure:

1. Make infusion by adding $2\frac{1}{2}$ cups boiling water to 1 cup fresh parsley.
2. Allow the mixture to cool; strain.
3. To 2 cups of parsley infusion add $\frac{1}{4}$ cup vinegar or apple cider and $4\frac{1}{2}$ cups sugar.
4. Boil until sugar is dissolved and add $\frac{1}{2}$ bottle of liquid pectin.
5. Boil again for $1\frac{1}{2}$ min and add 1–2 drops of food coloring if desired.
6. Fill sterilized jars and seal with paraffin.

parsley oil A yellow-brown, strong-smelling flavoring
See **parsley**

parsley root (parsnip-rooted parsley) The Hamburg variety of parsley, grown for its celery-flavored root

Storage: vegetable crisper or refrigerator

parsley sauce A butter sauce with parsley

parsley-seed oil An oil obtained by steam distillation of *Petroselinum sativum* seed; used as a flavoring agent in food; sp. gr. 1.04–1.08

Storage: full, glass container in a cool, dark place

parsley, turnip-rooted See Part 2: Planting Density

parsnip (*Pastinaca sativa*; *Peucedanum sativum*) A plant with a yellow-white fleshy root that contains sugar and starch and is similar to a carrot; used as food, for livestock feed, and for making wine; has a peculiar and distinctive taste; leaves on the cultivated variety may be eaten as a vegetable, but wild parsnip leaves are poisonous. 7000 seed/oz; 1 oz seed per 200-ft row; germination period 21 days; 4 in. apart in rows 15 in. apart; mature in 140 days; yield 2 bu/100-ft row

Variety	Season	Cook	Root
All American	95 days		White; slender; med. long
Avonresister			Short; thick
Harris Model (abundant yield)	120 days		Smooth; white; slender; ships well
Hollow Crown	100 days	Boil; parboil; fry	Tapered 12 × 3 in.; white; smooth
Offenham			Med. size
Tender and True			Med. size
The Student			Good flavor
White Gem (disease-resistant)			Med. size

Parsnip is a late-winter vegetable, because flavor improves (becomes sweeter and more desirable) on exposure to cold (below 40°F) weather; freezing (30°F) in the ground does not harm texture or flavor; available canned (quartered)

To cook: Boil until tender; fry until tender; parboil until tender

Caution: Be careful of wild plants that look like parsnip, e.g., the water hemlock (*Cicuta* spp.) resembles parsnip and is poisonous.

Refuse 20%

100 lb, fresh = 20–22 lb, dry

1 lb, fresh = 4 med.-sized parsnips
= 2 cups, cooked
= 2.7–4 servings

1 lb, fresh, without tops = 4–5 servings

1 cup, cooked = 210 g (7.4 oz)

1 med. parsnip, cut into matchstick pieces = 3 cups

Composition (raw): moisture 79%; protein 2%; fat 0.5%; carbohydrate 17%; ash 1%; pH 5.3

Composition (cooked): fiber 4.9%

Storage: may be left in ground and dug as needed; can be frozen, undug in garden; can be stored in cellar or pit; remove tops and store covered (90–95% relative humidity) in refrigerator (32°F); use within 1–4 weeks.

See Part 2: Essential Oils; Microwave Cooking, Fresh Vegetables; Minerals, Food; Plant Foods, Composition; Planting Density; Root Crop Characteristics; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetable Servings; Vegetable Storage; Vegetable Yields

parsnip chervil A turnip-rooted chervil; the roots are cooked like parsnips.

parsnip-rooted parsley See parsley root

Parson Brown A variety of early, Florida orange

parte A tilsit-type cheese

partenay A soft, white cheese made from goat's milk

partially defatted fatty tissue A by-product made from fatty trimmings that are less than 12% meat

partition coefficient [K (in gas chromatography)]

$$K = \frac{(\text{weight of solute})/(\text{milliliters of stationary phase})}{(\text{weight of solute})/(\text{milliliters of mobile phase})}$$

partridge (*Perdix cinerea*) A name that is applied to many types of game bird, including grouse and quail; any game bird of the genus *Perdix* or similar type birds; a game bird that has white meat and gamey flavor and is smaller than the pheasant See quail

parts per million [(ppm) in units of (mg/kg); γ/g, and γ/ml] A measure of very low concentrations

1 ppm = 454 micrograms per pound (μg/lb)
= 45.4 milligrams per 100 pounds (mg/100 lb)
= 8.345 pounds per million gallons
= 1.1 gram per ton (g/ton)
= 1 milligram per liter (mg/l)
= 0.07016 grains/gallon (Brit. gal)
= 0.0584 grains/gallon (U.S. gal)
= (mg/lb) × 2.2
= (mg/lb) ÷ 0.454
= percentage × 10,000
= g/ton × 1.1

Units of weight/weight (w/w):

Milligram per kilogram (mg/kg)

0.001 milligram per gram (mg/g)

Gamma per gram (γ/g)

Microgram per gram (μg/g)

Units of weight/volume (w/v):

Milligram per liter (mg/l)

0.001 milligram per milliliter (mg/ml)

Gamma per milliliter (γ/ml)

Microgram per milliliter (μg/ml)

ppm	%	Household* measure (approx.)	
		Per 1000 lb	Per 1000 gal
1	0.0001	—	1 tsp
10	0.001	1 tsp	8 tsp
100	0.01	3 tbsp	1 $\frac{2}{3}$ cups

*Products with sp. gr. 1.000

parturition The act of giving birth

parve See pareve

PASA Participating Agency Services Agreement

Pascal A high-level programming language that is used in business

pasha A liqueur flavored with coffee

pasilla (poblano) A shiny, green-black, triangular chili pepper (5–6 in. long) that is mild to medium-hot and has a wavy surface; it is usually peeled because of its tough skin.

538 pasillo

pasillo A mild to faintly hot chili pepper (7–12 in. long, 1.5-in. diam.) that is dark green when fresh and brown when mature

passe-l'an A hard, dry grating cheese made from cow's milk

passion fruit [granadilla; grenadilla; purple granadilla; *Passiflora edulis* (purple); *P. edulis flavicapra* (yellow); *P. quadrangularis*] A South American climbing plant that produces an egg-sized fruit with a tough skin that is purple (sometimes yellow) and wrinkled when ripe; the sweet, orange-colored, juicy pulp contains many small black seeds; may be eaten fresh, used as a drink, or made into jellies, pies, and cakes; the juice flavor is often described as a blend of citrus, pineapple, and guava. The fruit is a good shipper and can be boiled and used as a vegetable when green.

Varieties: Bell Apple; Giant Granadilla; Granadilla; Purple; Sweet Calabash; Sweet Granadilla or Water-lemon; Yellow

One average fruit yields 1 tbsp of juice.

Composition (pulp): moisture 88–89%; protein 0.5%; fat 0.1%; carbohydrate 10–12%; ash 0.4%

Storage: refrigerate (will keep for several weeks) or freeze; extracted pulp or juice may be frozen (will keep for several months).

See Part 2: Fruit Classification; Fruit Composition; Fruit Storage

passion fruit liqueur An alcoholic beverage (high alcohol content) flavored with passion fruit (*Passiflora*) extract made by soaking fruit in spirits

passiti Sweet, Italian dessert wines

passito A creamy, semisoft, mild-flavored, cheese made from cow's milk and ripened by surface bacteria

Passover bread Matzo

Passover food Unleavened bread is required; matzo meal (a coarse "flour") is used; regular wheat, all grains, and legumes (e.g., peas and beans) are prohibited

Passover wine A dark red, sweet wine

pasta (alimentary paste) The general term for all types of macaroni and spaghetti (originally Italian) made from various mixtures of unleavened wheat flour and eggs; usually served with sauces or stuffed with vegetables, cheese, or meat; a paste of fresh dough made from flour, salt, water, and frequently eggs that is made into a variety of shapes; edible paste made from semolina flours (high in gluten) of durum wheat; pasta shapes and types include ABCs, bow ties, dumplings, lasagne, maballa, macaroni, mostaccioli, noodles, Os, roletti, rotini, shells, spaghetti, spaghettiini, squares, vermicelli, and wagon wheels See **alimentary paste**

paste 1) A thick sauce made from fish or vegetable products, e.g., anchovy paste, tomato paste. 2) A smooth, plastic mixture. 3) A smooth, concentrated starch suspension with a short texture and slight to sluggish flow, e.g., dough for bread, macaroni, noodles, or spaghetti. See **meat paste**

See Part 2: Tomato and Tomato Products, Composition

pasterello A semihard cheese made from cow's milk with a full, fruity flavor

pastern The area on the leg below the fetlock and above the hoof head

Pasteur See **Pasteur, Louis**

Pasteurella See Part 2: Microorganism, Media

pasteurization A mild heat treatment (sustained heating below the boiling point of water at sea level) used to kill or inhibit the vegetative forms of many bacteria in liquid or semiliquid food products, resulting in the partial sterilization of food; pasteurization may take place from 175 to 190°F for jams, jellies, and preserves.

Time	Cream		Whole or skimmed milk
	And other products	For butter making	
30 min	150°F (min.)	165°F (min.)	142–143°F
15 s	175°F (min.)	185°F (min.)	162°F
3 s			205–207°F

Products are cooled immediately to 50°F or lower.

Other products:

Beer—140°F for 20 min; 158°F for 30 s

Eggs—140°F for 3½–4 min

Fruit juices—170–200°F for 1–3 min

Wine—145°F, flashing; 120°F for several days

See Part 2: Radiation Preservation; Thermophiles

pasteurization test (milk) A test for the absence of phosphatase enzyme; the temperature of enzyme inactivation is high enough to destroy undesirable microorganisms.

pasteurized Describes food that has been heat-treated to inhibit bacteria, yeast, and molds; the heat used is not enough heat to destroy most spores. See **pasteurization**

pasteurized process cheese A blend of fresh and aged natural cheese that has been heated; may also be mixed with fruits, vegetables, meats, or pimientos; may have a smoked flavor; can be frozen for 4 months. Types:

Pasteurized process American cheese—made from natural cheddar or similar types of cheese; the most popular process cheese

USDA grade—"Quality Approved" (good quality, manufactured in a clean plant)

Pasteurized process Swiss cheese

Composition	American	Swiss
Moisture (%)	39.2	42.3
Protein (%)	22.1	24.7
Fat (%)	31.2	25.0
Carbohydrate (%)	1.6	2.1
Ash (%)	5.8	5.8
Sodium (mg/oz)	406	388

pasteurized process cheese, American See **pasteurized process cheese**

pasteurized process cheese food Similar to pasteurized processed cheese except the fat content is lower and moisture content higher; it is softer and more bland. It may be made from American cheese with moisture added and is creamy and spreadable; it contains less cheese and more nonfat dry milk or whey solids than pasteurized process cheese.

Composition	American	Pimiento	Swiss
Moisture (%)	43.1	39.1	43.7
Protein (%)	19.6	22.1	21.9
Fat (%)	24.6	31.2	24.1
Carbohydrate (%)	7.3	1.7	4.5
Ash (%)	5.3	5.8	5.8

pasteurized process cheese spread Made like pasteurized process cheese food, but with a higher moisture and lower milk fat content; it may be made from American cheese with moisture added and mixed with pickles, pimientos, or spices.

Composition (American): moisture 47.6%; protein 16.4%; fat 21.2%; carbohydrate 8.7%; ash 6.0%

pasteurized process Swiss cheese See **pasteurized process cheese**

Pasteur, Louis A French chemist and bacteriologist who is considered to be the founder of modern microbiology; discovered that microorganisms are destroyed by heat

pasties (pasty) Turnover-type pastries that may contain meat, fruit, or vegetables

pasting Clarifying, or fining, a beverage

pastirma A heavenly seasoned sausage made from lean beef and lamb fat; not smoked

pastis 1) A general term for aniseed-flavored liqueurs. 2) A fish sauce; may be made from *Decapterus* spp., *Leigathus* spp., or *Sardinella* or *Stolephorus* spp.

pastrami A flat piece of beef (lean portion of plate or navel) seasoned with allspice, black pepper, garlic, nutmeg and paprika, dry-cured, cooked, sometimes heavily smoked, coated with spice (usually pepper and/or coriander), and dried; may be consumed hot or cold; sometimes made from turkey, goat, or mutton

Composition (turkey): moisture 70.6%; protein 18.4%; fat 6.2%; carbohydrate 1.7%; ash 3.1%

pastry A baked product made of flour, shortening, and water; sometimes eggs and/or milk may be used as the liquid ingredient; used as a crust for pies, turnovers, etc.

pastry flour See **soft-wheat flour**

pasture Land used for grazing animals to supplement their regular food supply; a crop grown to feed grazing animals:

Winter—barley, crimson clover, oats, and rye

Summer—kudzu, lespedeza, millet, soybeans, and sudan grass

Classes:

Permanent—a field that contains perennial crops (grasses) that are grown year after year for grazing

Temporary—a field that contains crops used to furnish temporary grazing

pasty 1) Having a texture similar to a paste of flour and water. 2) See **pasties**

pasztador Semihard, strongly flavored cheese made from cow's milk and ripened by surface bacteria

pata de mulo A soft, high-fat cheese made from sheep's milk

patagras A gouda-type cheese

patava palm See **palm**

patay A soft cheese made from cow's milk and matured in wood ashes

patchouli oil An essential oil obtained by steam distillation of the leaves of the patchouli plant; used as a flavoring

See Part 2: Essential Oils; Wastes, Agricultural and Industrial; Flavoring Agents, Natural

patchy Having lumps of exterior fat

pâte 1) A general term for sweet or savory pastry. 2) Pasta; dough

pâté 1) A meat or fish pie or patty. 2) A spread of finely mashed, seasoned meat or a finely chopped, smooth-textured liver sausage

Composition	Liver pâté (canned)		
	Goose		
	Chicken	Smoked	Unsmoked
Moisture (%)		37	53
Protein (%)	13.4	11.4	14.2
Fat (%)	13.1	43.8	28
Carbohydrate (%)	6.5	4.6	1.5
Ash (%)		3	2.2

pâté de foie gras A rich, goose-liver paste; in addition to goose liver, it often contains the following: butter, garden herbs (fines herbs), goose fat, mushrooms, parsley, pepper, salt, and truffles

pate de hígado A moist, cooked, unsmoked Mexican sausage made from finely chopped, mildly seasoned pork stuffed into artificial casings

patela A tilsit-type cheese

patella A flat movable bone in front of the knee (i.e., the kneecap)

See Part 2: Bone

patent barley See **barley**

patent-coated See **chipboard**

patent flour A grade of white flour that may be made from the best 40–95% of all the white flour milled (the best subdivision of straight grade flour)

Patent flour grades (from highest to lowest):

Extra-short patent—highest grade

Short, family, or first patent

Short patent

Medium patent

Long patent—lowest grade

See Part 2: Flour, Extraction Rates, Wheat and Flour, Composition

patho- A prefix that is used to indicate disease

540 pathogen

pathogen Any disease-producing microorganism or material, including bacteria, parasites, viruses, or fungi that can cause disease

pathogenic Disease-producing

patis A condiment that is a condensed by-product of seafood fermentation

patola See Part 2: Vegetable Storage

pato real Wild duck

patrao A liqueur flavored with cashew nuts

pattie See **patty**

patty (pattie) 1) A small unit of slightly compressed chopped meat, usually fried, e.g., a hamburger. 2) A small pie

See Part 2: Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Pork, Cooking

patty mix Chopped meat and poultry products that are capable of being shaped into patties

pattypan (custard squash; cymling; scalloped squash) A round (4–12-in. diam.), flat summer squash that has a scalloped edge, a thin, green-yellow or white skin, and yellow flesh

patulin (clavacin; claviformin; expansion clavatin) A mycotoxin that is an antibiotic and an insecticide; it has been reported to be carcinogenic and mutagenic, and is produced by *Aspergillus clavatus* and *Penicillium roquefortii*

paturition The act of giving birth

paua See **abalone**

paugy See **scup**

pauillac A highly flavored red wine

paunch The abdomen; the rumen, or first stomach, of ruminants See **rumen**

paunchy Having too large a belly

pavé d'Auge A semisoft, strong-flavored (matured 2–4 months) cheese with small holes and an orange and white rind

pavé de Moyaux A semisoft, strong-flavored (matured 2–4 months) cheese with small holes and an orange and white rind

pawpaw See **papaya**

paw-tsay A type of vegetable preserved by salting and fermentation of its juices, similar to the production of sauerkraut

payment-in-kind (PIK) 1) Payment in the form of commodities, made to farmers for reducing the acreage of certain crops and placing that acreage in conserving uses. 2) Export enhancement programs or other programs by which payments are made in the form of commodities

payment limitation A limit on the amount of money any individual farmer may receive in farm program payments each year

payong payong Straw mushroom

paysanne Describes meat or poultry braised with vegetables

Pb The symbol for the element lead (Latin *plumbum*)

p.c. *Post cibos* (Latin, after eating), *post cibum* (Latin, after food)

PCB Polychlorinated biphenyls See **polychlorinated biphenyl**

PCSIR Pakistan Council for Scientific and Industrial Research

PCV (packed cell volume) Cubic centimeters of packed red blood cells per 100 cubic centimeters of blood

See Part 2: Blood

Pd The symbol for the element palladium

PDQ Peeled, deveined, and quick-frozen shrimp

pea (*Pisum sativum*; *P. sativum hortense*) A leguminous vegetable originally from Central Asia; the seeds (4–10 per pod) are used as food; a cool-season plant requiring a well-drained soil; 225 seed/oz; seed 1 lb (or 1 pint)/100 ft; germination period 9 days; plant 1–1½ in. apart in rows 18–24 in. apart; mature in 50 days; harvest when pods are full; yield 1 bu/50-ft row

Classifications:

Tough pod—green to cream-colored peas

Smooth-seeded—harvested in early June; used for cooking

Wrinkled seeds (sugar pea, sweet pea)—sweeter than smooth-seeded

Varieties: Alaska; Alderman; Freezer 37; Freezer 640; Freezonia; Frosty; Green Arrow; Hundredfold; Little Marvel; Progress; Rondo; Thomas Laxton; Wando

Edible-podded—3½- to 4½-in. pods; eaten like green beans and used in Chinese cooking

Varieties: Dwarf Gray Sugar; Little Sweetie; Mammoth Melting Sugar

Split—dried (skins removed); used in pureed soup

Types:

Alaska—a variety of tough-podded pea that produces small, round, green, smooth seeds and 2½-in. pods; 3-ft vine

Dwarf—varieties that grow as short vines that do not require support

Varieties—American Wonder; Blue Bantam (4-in. pods); Laxtonian (4-in. pods); Notts Excelsior

Early June—smooth-seeded varieties that mature in June and produce round, firm-textured, seeds that are high in starch and retain their shape during canning

Edible-podded (sugar pea)—both pods and peas eaten; medium-sized pods; mature in midseason

Varieties—Dwarf Gray Sugar; Melting Sugar

Field—also called dried pea, pease, and split pea; grown for livestock feed and green manure; dried seeds used for human food (as pea meal or as split peas)

Garden (*P. sativum arvense*)—also called English pea and green pea; peas picked green (immature) and used as a vegetable (fresh, frozen, or canned); also used (for human food) as dried peas

Gungo—used green or dried

Late-maturing—tall vines

Varieties—Improved Stratagem; Large white marrowfat (oblong seeds)

pea (*Pisum sativum*; *P. sativum hortense*) 541

- Semidwarf—flat pods
 Varieties—Gradus; Little Marvel; Thomas Laxton
 Snow—both pods and peas eaten; available fresh, frozen, or dried
 Southern pea (cowpea; protopea; *Vigna unguiculata*)
 Types:
 Blackeye
 Cream
 Crowder
 Sweet (sugar pea)—large, oblong wrinkled seeds;
- Sweet (continued)
 tender, with good flavor; develop dimples during canning
 Tall (midseason)—4-ft vines; 4- to 5½-in. pods
 Varieties—Alderman; Dwarf Telephone; Perfection; Telephone
 Pealike seeds of other plants (other than *Pisum* spp.):
 Chick-pea (*Cicer arietinum*)—also called garbanzo and gram; used fresh or dried; also used as a coffee substitute
 Southern pea (*Vigna sinensis*, *V. unguiculata*)—also called cowpea and protopea

Pea US grade	Texture	Flavor	Color	Juice	Variability
A	Tender	Flavorful	Soft pea green	Slightly green; waterlike	Little
B	Slightly mealy	Very good	Variable	Slightly cloudy; light green	A few off-color or broken
C	Mealy	Less sweet	Dull pea green	Very cloudy; starchy flavor	Some blond-colored or broken

Season and variety	Size (cm)	Characteristics	Season and variety	Size (cm)	Characteristics
First early			Second early (continued)		
Early Onward	60	Abundant yield	Histon Kingside	150	Well-filled pods
Feltham	45		Kwartella	60	Abundant yield
Freezonia		Wrinkled seeds	Recette	60	Wrinkled seeds, double-podded
Giant Stride		Wrinkled seeds	Victory Freezer	75	
Gradus	90	Wrinkled seeds	Midseason		
Greater Progress		Wrinkled seeds	Alderman	140	Abundant yield
Histon Mini	30	Well-filled pods	Lord Chancellor	90	Abundant yield
Kelvedom Wonder	45		Lincoln		
Little Marvel	45	Well-filled pods, wrinkled seeds	Late		
Meteor	45	Round seeds	Autocrat	120	Large green pods
Pilot	150	Round seeds			
Second early					
Achievement	130				
Giant Shaft	75	Good flavor			

Pea type and variety	Pod	Pea	Season	Use
Edible-podded*				
Dwarf Gray Sugar	3 in.; light green		65 days; early	
Giant Melting Sugar	4.25 × 5/8 in.		68 days; midseason	
Little Sweetie	2.5 in.		60 days	
Sugar Snap	2½–3 in.; blunt		70 days	Raw; fresh
Garden				
Alaska	2.5 in.	6–8/pod	55 days	Canning; fresh
Alderman		Smooth	Midseason	
Beagle	2.75 in.	7–8/pod	Early	Canning; freezing
Freezonia		Wrinkled	Early	
Giant Stride		Wrinkled	Early	
Greater Progress		Wrinkled	Early	

(Continued)

Pea type and variety	Pod	Pea	Season	Use
Green Arrow	4 in.; bright green	9-11/pod; wrinkled	70 days	Freezing
Laxton's Progress	Large; 4.5 in.	7-9/pod	60 days	Canning; freezing; market
Lincoln	3 in.	8-9/pod	65 days; midseason	Market; freezing
Little Marvel	3 in.; round; dark green	7-8/pod; wrinkled; sweet	63 days; early	Freezing
Midseason Freezer			63 days	Freezing
Mighty Midget	3.5 in.		Early; 60 days	
Patriot	3.5 in.; dark green	9-10/pod	65 days	Freezing
Thomas Laxton		Wrinkled	Early	
Waldo			Heat-resistant	

*Also called Snow Pea, sugar pea, and Chinese pea

Types—black-eyed pea; cream pea; crowder pea

The highest grade for dried peas (whole or split) is US No. 1.

Canned types: dimple-skinned or sweet; smooth-skinned, early, or early June

Canned sizes:

Tiny

Small

Medium small

Medium large

Large

Extra large

Garden run—no separation

Run of pod—ungraded except that the two small peas at each end of the pod are removed

Assorted size—two adjacent sizes

Mixed range—three or more sizes

Sifted—some sizes removed

Packed in brine (water, sugar, and salt); cloudy canning brine is caused by overcooking or dry weather.

Frozen styles: sweet types used

To prepare (fresh): Boil or steam.

To prepare (dried, whole): Boil in water for 2 min.; soak for 1 hour or overnight; cook (1 tsp salt to 1 cup dry pea) until tender or pressure-cook 3-10 minutes.

Refuse: pods (45-55%)

1 part freeze-dried weight = 5 parts fresh weight

1 case (24) No. 2 cans = $\frac{1}{100}$ ton, unshelled

1 lb green peas, shelled = $2\frac{1}{2}$ lb, unshelled

In pod:

1 bu, fresh = 30 lb

= 12-15 pt, frozen

= 12-18 pt, canned

1 bu, ground = 24 lb

= 6-15 qt, canned

4-4 $\frac{1}{2}$ lb, fresh = 1 qt, frozen

2-6 lb, fresh = 1 qt, canned

1 lb, fresh = 1 cup, shelled

1 cup = 4 oz

1 serving = $\frac{1}{2}$ - $\frac{3}{4}$ lb

Shelled:

1 bu, dry = 60 lb

= 12-16 pt, canned

1 bu, fresh = 30 lb

$\frac{1}{2}$ -1 lb, fresh = 1 pt, canned

1 cup, cooked = 165 g (5.7 oz)

1 cup = 140 g (4.9 oz)

1 serving = $\frac{1}{2}$ lb

Dried, split:

1 lb = 2.25 cups

= 5 cups, cooked

1 cup = 200 g (7.1 oz)

1 cup, cooked and drained = 195 g (6.8 oz)

Canned:

16 oz = 3-4 servings

1 cup, drained solids = 6-8.2 oz

1 cup, solids and liquid = 8.1-8.8 oz

Frozen:

10 oz = 3 servings

1 cup = 2.5 oz

1 cup, boiled and drained = 6 oz

Dried:

1 lb = 10-13 servings

1 cup = 2-2.75 cups, cooked

Composition	Mature, dried	Raw	
		Green	In pod
Moisture (%)	9-12	74-78	83
Protein (%)	24-25	6.3-6.7	3.5
Fat (%)	1	0.4	0.2
Carbohydrate (%)	60-62	14-18	12
Ash (%)	29-3.0	0.9-1.0	1
pH	6.5-6.8	5.4-7.0	

Fiber 6.3% (cooked); sodium 698 mg/cup (canned)

Storage (fresh): Leave in pod; refrigerate (32°F); 85-90% relative humidity; use within 1-2 days (sweetness deteriorates after picking).

Storage (frozen): 0°F; storage life 1 yr

See pea, split; southern pea

See Part 2: Ascorbic Acid; Beans, Dry, Cooking; Beans or Peas, Planting Guide; Beans, Peas, and Lentils, Label; Beans, Peas, and Nuts; Calories, Daily Recommendations; Canned Spoilage Related to pH; Canned Yield; Frozen Food Storage; Fruit and Vegetables, Composition; Glutamate; Glutamate Addition; Iron;

Iron, Daily Recommendations; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Niacin; Niacin, Daily Recommendations; Nicotinic Acid, Food; Pentosans; Phosphorus; pH Values of Biological Materials; Plant Foods, Composition; Planting Density; Portion Size; Pulses, Nuts, and Seeds, Composition; Riboflavin; Riboflavin, Food; Seed, Chemical Composition; Seed, Germination; Soups, Composition; Standards, Processed Fruit and Vegetable Products; Storage; Storage, Dry; Sugar, Legumes; Thiamin; Thiamin, Daily Recommendations; Thiamin, Food; Tocopherols; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned, and Fresh; Vitamin A, Daily Recommendations; Vitamin A, Food

pea, asparagus (*Lotus tetraglobus purpureus*; *Psophocarpus tetragonolobus*) An annual pea that produces an edible rectangular pod (2.5 cm) that can be cooked whole

pea bean (beautiful bean; French kidney bean) A variety of green bean that produces small, round, white beans; highest grade is US No. 1 Choice Hand-picked (or Handpicked) See **bean, pea; cowpea**

pea, black-eyed (black-eyed bean; cowpea; cream pea; purple hull; southern pea; southern table pea; *Vigna sinensis*) Any of several varieties called black-eyed pea, southern pea, or cowpea that produce beans that are cream-colored to white with a black spot on one side; used as a main-dish vegetable

Varieties: Brown Crowder; Conch; Dixille; Knuckle Purple Hull; Lady; Louisiana Purchase; Monarch Blackeye; Texas Purple Hull; White Acre

Highest grade is US No. 1.

1 lb, fresh = 2.33 cups, cooked

1 cup = 145 g (5.1 oz)

1 cup, cooked = 160 g (5.7 oz)

1 cup, dried = 200 g (7.1 oz)

1 cup, dried, cooked = 250 g (8.7 oz)

See **cowpea**

pea, carlin A dark-seeded northern pea that is used mainly for Mid-Lent Sunday

peach (*Prunus persica*) A small tree, originally from eastern and southeastern Asia, that produces a greenish, white- or yellow-fleshed, single-seeded, dessert fruit that grows well in the temperate regions Uses: brandy; eaten fresh, canned, dried, or frozen; made into jam or preserves; pies

Types:

Clingstone—flesh does not separate from stone easily; preferred for canning (firmer flesh; plum)

Freestone—flesh separates from stone easily; preferred for eating and freezing; may be canned (soft)

Bearing age 3–4 yr; avg. yield 120 lb/tree; useful life 12 yr; spray applications 8–10/yr; the kernels are rich in oil but also contain prussic acid.

Freestone variety (from early- to late-ripening)	Fruit		
	Size	Canning quality	Use
Grown east of the Rockies			
Springgold	Med.	Poor	
Candor	Med.	Med.	
Early Redhaven	Med.	Med.	
Dixired	Med.	Med.	
Harbrite	Med.		
Redhaven	Med.-large	Med.-good	Fresh; freezing jam
Redglobe	Large	Good	
Loring	Large	Good	
Redskin	Large	Good	
Elberta (yellow)	Large	Good	All-purpose
Rio Oso Gem	Large	Good	
Monroe	Large	Good	
Grown in bacterial-leaf-spot areas (east of the Rockies)			
Sentinal	Med.-large	Med.	
Ranger	Large	Good	
Dixiland	Large	Med.-good	
Grown in warm-winter* areas (east of the Rockies)			
Maygold	Med.	Med.	
Junegold	Med.	Poor	
Suwanee	Large		
Grown in Florida and the Rio Grande Valley			
Desertgold	Med.-small		
Floridasun			
White-fleshed (grown east of the Rockies)			
Early-Red-Fre	Med.-large	Med.	
Raritan Rose	Large	Med.-good	
Grown west of the Rockies			
Springgold	Med.	Poor	
Springcrest	Med.	Poor	
Royal May	Med.-large	Med.	
Flavorcrest			
Regina	Large	Med.-good	
Redtop	Large	Good	
Suncrest			
Fayette	Large	Good	
Summerset	Large	Med.	
Fairtime	Large	Med.	
Grown in warm-winter* areas (west of the Rockies)			
Junegold	Med.	Poor	
Sunnyside			
Fairway			
Grown in short-winter areas (west of the Rockies)			
Desertgold	Med.-small		
Springtime	Small	Poor	White flesh
Babcock	Med.	Med.	White flesh

*Low chilling requirements

Clingstone varieties: Load; Andross; Halford; Early Rose (white-fleshed)

To prevent darkening: After cutting, dip in grapefruit, lemon, lime, orange, or pineapple juice.

Canned types: clingstone yellow; freestone yellow; freestone white (sometimes)

Canned sizes: diced; halves, mixed pieces (irregular sizes and shapes); quarters; slices; whole (usually spiced)

544 peach (*Prunus persica*)

Canned styles:

Diced—peeled
Halves—peeled

In syrup
Solid-pack
Water-pack

Melba—halves of large yellow cling peaches

Sliced—peeled; used for shortcake

Solid-pack
Water-pack

Spiced or sweet, pickled—whole

Peeled—in syrup, vinegar, cloves, and cinnamon

Unpeeled—in syrup, vinegar, cloves, and cinnamon

Canned, packed in: water; slightly sweetened water; light syrup; heavy syrup; extra-heavy syrup

Can size	Count per can				
	Whole, spiced	Halves			
		Melba	Fancy	Choice	Standard
2½	9	6	10	12	16
10	33	19	30	33	40

Defect action level (canned): average 5% wormy or moldy fruit or 4% if a whole larva or equivalent is found in 20% of cans

Frozen style: Slices

Dried variety: Muir, a yellow freestone; pit area does not darken on drying and storage

Dried styles: peeled; unpeeled

Refuse: 12% (pit and skin)

1 bu, fresh = 48 lb

= 32–48 pt, frozen

= 16–25 qt, canned

1 case (24) No. 2½ cans = 1 bu, fresh

1 bu, dried = 33 lb

1 lug box = 20 lb

= 13–20 pt, frozen

1 pt, frozen = 1–1.5 lb, fresh

2–3 lb, fresh = 1 qt, canned

1 lb, fresh = 3–4 servings

= 2.6–6 med. peaches (2-in. diam.)

= 1.3–3 cups, sliced

= 3 cups, dried, whole

1 lb, dried

= 54 halves

= 10–14 servings

= 6–7½ lb, fresh

= 3 cups, dried [1 cup = 160 g (5.6 oz)]

= 6 cups, cooked [1 cup = 245 g (8.6 oz)]

1 qt, canned = 2–3 lb, fresh

16 oz, canned = 4 servings, with liquid

= 2–3 servings, drained

10 oz, frozen = 2–3 servings

1 cup, diced, fresh = 9.4 oz

1 cup, sliced, fresh = 6 oz

1 cup, canned, in heavy syrup, halves, solids and liquids = 9 oz

1 cup, dried = 6.2 oz

1 cup, dried, cooked with sugar, solids and liquids

= 10–12 halves + 3 tbsp liquid

= 9.6–10.8 oz

1 cup, frozen = 8.4–10 oz

6 med. peaches = 1 lb, frozen

1 med. peach (2-in. diam.)

= 0.5 cup, sliced

= 0.25 lb, peeled, pitted, and sliced

1 serving = 0.5 cup, fresh

= 0.5 cup, dried

Composition	Dried	Raw
Moisture (%)	15–25	89
Protein (%)	3	0.6
Fat (%)	0.7	0.1
Carbohydrate (%)	68	10
Ash (%)	3	0.5
pH		3.4–3.7

Fiber 1.3% (raw), 1.0% (canned); vitamin A 880 IU/100 g; ascorbic acid 8 mg/100 g

To ripen: unwrapped, at room temperature and out of sunlight

To peel: 2–2.5% lye solution or scald 1–2 min.

To freeze: pack in 40° Brix syrup and 0.1% ascorbic acid.

Storage: Refrigerate (31–32°F), uncovered (85–90% relative humidity); freezing point 29°F; peaches bruise easily; when ripe, use within 3–5 days. Frozen (0°F) storage life 1 yr

See other **peach** entries

See Part 2: Calories, Daily Recommendations; Canned Yield; Flavor Ingredients, Taste and Flavor Type; Food, Composition; Frozen Food Storage; Fruit and Nut Rootstock; Fruit and Vegetables, Composition; Fruit and Vegetables, Diseases; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Cooking; Fruit, Dried, Simmering; Fruit, Frozen Yield; Fruit, Growing Season, Storage Life; Fruit Harvest Dates; Fruit Sauces; Fruit, Servings per Pound; Fruit, Simmering; Fruit Storage; Microwave Cooking, Fruit; Minerals, Food; Niacin; Nutrients in Crops; Plant Foods, Composition; Poisonous Plants; Potassium; Riboflavin; Standards, Processed Fruit and Vegetable Products; Storage; Storage Times; Sugar, Fruit; Vitamin A; Vitamin A, Daily Recommendations; Vitamin A, Food; Wine, Sweet

peach brandy A sweet liqueur made from peaches (*Prunus* sp.) and at least 20% brandy

peaches, canned In addition to peaches, may also contain natural and artificial flavors, spice, vinegar, and lemon juice or other organic acid, such as ascorbic acid (no greater than the amount needed to preserve color)

Packed in:

Water

Slightly sweetened water

Extra-light syrup—10–14% sucrose

Light syrup—14–18% sucrose

Heavy syrup—18–22% sucrose

Extra heavy syrup—22–35% sucrose

Shapes and sizes: diced; halves; mixed pieces; quarters; slices; whole (usually spiced)

Types: clingstone (yellow); freestone (yellow and sometimes white)

pea, Chinese See **pea, edible-podded**

peach-kernel paste A paste produced by cooking blanched, ground kernels with sugar

peach leaf curl A fungal disease (caused by *Taphrina deformans*) of peach trees; the leaves become puckered and thick, red to purple in color; new growth is stunted and twigs are swollen.

Control: fungicide spray

peach pie One-eighth of a 9-in. pie (71 g) contains 300 calories and 169 mg sodium

from tough fiber); the pea is cooked whole like snap beans *See* **pea, sugar**

pea, garden *See* Part 2: Beans or Peas Planting Guide

pea grade (dry edible) US Grades 1, 2, and 3

pea, grass (chickling vetch; khessari; vetchling; *Lathyrus sativus*) A leguminous plant that produces protein-rich seeds; some varieties are toxic

pea, green (or split), soup Available canned (condensed) or as a dehydrated mix

Green (or split) pea soup	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Condensed	68.5	6.5	2.2	20.2	0.5	2.5
Prepared with milk	77.9	5.0	2.8	12.7	0.3	1.6
Prepared with water	83.5	3.4	1.2	10.6	0.3	1.3
Dehydrated	4.3	20.5	4.2	60.7	1.8	10.3
Prepared with water	86.8	2.8	0.6	8.4	0.2	1.4

See Part 2: Baked Products, Frozen Storage Life; Grain Products, Composition

peach sauce A fruit sauce made from cooked peaches and sugar; sometimes with cinnamon, nutmeg, or grated lemon oil added

peach tree borer [*Sanninoidea exitiosa*; lesser peach tree borer (*Synanthedon pictipes*)] A moth larva that attacks apricot, cherry, peach, and plum trees and feeds on the cambium and inner surface of bark, which reduces fruit size and yield; gum forms on the feeding sites.

Control: keep trees healthy; insecticide

peach twig borer A brown worm ($\frac{1}{4}$ – $\frac{1}{2}$ in.) that is often in fruit (nectarines and peaches) at the time of harvest

pea, dried Peas that are harvested when mature and then dried; may be green or yellow, split or whole

To dry: Pick pods when mature, and spread in a warm place until dry or, after pods are ripe, pull entire plant and dry like hay

To protect after drying: Refrigerate at 0°F or lower for 4 days or heat in oven at 180°F for 15 min and leave in oven for 1 h after heat is turned off.

Types:

Green—more distinct flavor than yellow

Split—skins removed; pea broken in half by machine

Whole—not split

Yellow—less pronounced flavor

To prepare: Boil in water for 2 min; soak for 1 h or overnight; cook (1 tsp salt to 1 cup dried peas) until tender or pressure-cook 3–10 minutes.

1 cup dried peas = 2–2.75 cups cooked peas

1 lb dried peas = 12–13 servings

Storage: tightly covered; 50–70°F; dry; do not mix with older product; will keep for several months (if stored at 32–40°F in a dry place, will keep many years)

pea, edible-podded (Chinese pea; snow pea; sugar pea) A type of pea that produces tender pods (free

Peak A variety of clingstone peaches

peak (gas chromatography) The portion of the chromatogram that indicates that something is going through the detector; the peak area is the area enclosed by the peak and peak base. The peak base is the interpolation of the baseline under the peak. The peak height is the distance from the peak base to the peak maximum, measured perpendicular to the baseline. The peak width is the portion of the peak base that is enclosed by straight lines drawn tangent to the sides of the peak. The peak width at half height is a line drawn tangent to the peak sides at one-half the peak height and perpendicular to it.

pea mint *See* **spearmint**

peamouth (*Mylocheilus caurinus*) A food fish

peanut (earth almond; earth nut; goober; goober pea; groundnut; Manila nut; monkey nut; pinda; pindar; pistache de terre; *Arachis hypogaea*) A leguminous tropical and subtropical plant, originally from Central and South America, that produces edible underground pods (which are called nuts although they are not true nuts, but are a type of pea); grown as an oil crop (used in cooking, lighting, making margarine, and as a substitute for olive oil); the nuts are also used as food (boiled, raw, roasted, or steamed) and are made into a high-protein meal; the vines are used as hay for livestock feed. 2000–3000 seed/kg; mature in 120–150 days; mature nuts must be harvested quickly and dried. Moldy peanuts should be avoided for food or feed because they may contain aflatoxins, which are toxic and carcinogenic metabolites produced by mold (*Aspergillus flavus*) growing on moist nuts.

Nutrient	Approximate amount required to produce 1 ton	
	Nuts	Vines
K ₂ O (lb)	20	41
Nitrogen (lb)	60	39
P ₂ O ₅ (lb)	14	5

546 peanut

Types:

Hog peanut (*Amphicarpaea monoica* or *Am. pitcheri*)

Runner—a cross between Virginia and Spanish Spanish (*Arachis hypogaea* var. *vulgaris*)—contains 6% more oil than Virginia; boiled in oil and salted with the skin on; sweet

Valencia (*Arachis hypogaea* var. *fastigiata*)

Virginia (*Arachis hypogaea* var. *hypogaea*)—boiled in oil and salted with the skin removed

Type	Season (days)	Nut	Vine
Jumbo Virginia	140–160	Large; long; slender; 1–2/pod; 17 lb/bu (unshelled)	3.5 ft
Runner (primarily Florunner)	140–160	Small to large; stubby; 2–3/pod; 21 lb/bu unshelled	
Spanish	90–120	Small; round 2–3/pod; 25 lb/bu unshelled	Dwarf (2 ft)
Valencia	90–120	Small; 3–6/pod	

Terms:

Pops—empty pods

Roasting—preparing for consumption by dry-roasting until nuts develop light brown color

To remove skins: Blanch in boiling water for 3 min

To boil: Wash and rinse pods; cover with medium brine (10 oz salt/gal water) and boil for 15 min; drain 1 h; shell and eat; refrigerate (will keep up to 5 days); freeze for longer storage.

To roast (unshelled): Place pods in pan 2 in. deep; roast at 325–350°F (stirring) for up to 1 h, depending on moisture; cool.

To roast (shelled): Using 1 tsp cooking oil/cup nutmeats, dry-roast in oven at 350°F for 5–12 min; sprinkle with salt if desired.

To toast (shelled): Using 1 tsp cooking oil/cup nutmeats, heat in a heavy pan on top of the stove (stirring) for 10–15 min or until browned

Oil extraction: Nuts are shelled, cleaned, and crushed; then they are heated to 110°C for 90 min and pressed at 4000 lb pressure. The residue (oil cake) remaining after oil extraction is used for livestock feed.

Refuse: 25–33%

1 metric ton roasted nuts, unshelled

= 265 kg oil

= 410 kg meal

= 325 kg shells

1.5 lb, unshelled = 1 lb, shelled

1.75 cups, unshelled = 1 lb

1 lb, unshelled

= 11.7 oz roasted nuts, unshelled

= 2.3 cups roasted nuts, unshelled

3 cups, shelled = 1 lb

1 cup, shelled = 145 g (5.1 oz)

Composition: shell 21–29%; skin 2–3%; kernel and germ 71–75%; moisture 4–13%; protein 21–36%; fat 36–54%; carbohydrate 12–43%; ash 2–3%

Sodium content: canned 130 mg/oz; dry-roasted 986 mg/cup (144 g); Spanish, salted 823 mg/cup (144 g); roasted, salted 601 mg/cup (144 g); unsalted 8 mg/cup (144 g)

Two tablespoons contain 105 calories.

Storage: 10% moisture, 60% relative humidity

See Part 2: Beans, Peas, and Nuts; Minerals, Food; Nicotinic Acid, Food; Nutrients in Crops; Oils, Seed and Fruit; Pantothenic Acid Content; Plant Foods, Composition; Protein Factors; Pulses, Nuts, and Seeds, Composition; Seed, Chemical Composition; Seed Composition; Seed, Germination; Tocopherols; Unsaponifiable Matter

peanut brittle Brittle toffee containing roasted peanuts; $1\frac{1}{2}$ pieces [$2\frac{1}{2} \times 1\frac{1}{4} \times \frac{3}{8}$ in. (1 oz)] contain 120 calories.

peanut butter A soft paste made from peanuts (usually a mixture of Virginia and Spanish varieties) by removing the skin and germ, grinding the roasted and blanched kernels, and salt; separation is prevented by hydrogenation and added emulsifiers; crunchy style has bits of roasted peanuts mixed into the product.

Defect action level: avg. 50 insect fragments/100 g; avg. 2 rodent hairs/100 g; 35 mg gritty, water-insoluble inorganic residue per 100 g

1 lb = 1.8 cups

1 cup = 250 g (8.9 oz)

1 tbsp = 0.5 oz

Composition: moisture 1.8%; protein 27%; fat 49%; carbohydrate 17%; fiber 2%; ash 4%; sodium 75–85 mg/tbsp (16 g)

One tablespoon contains 95 calories.

Storage: Refrigerate after opening; hold at room temperature shortly before using.

See Part 2: Beans, Peas, and Nuts; Calories, Daily Recommendations; Niacin, Daily Recommendations; Nut, Grades; Salad Dressing and Mayonnaise Variations; Standards, Processed Fruit and Vegetable Products; Storage, Dry

peanut flour A high-quality protein flour made from peanuts by crushing the shelled nuts (germ and skin removed), extracting the oil, and grinding the meat to form the flour

Protein content: full-fat 28%; fully defatted 57%; partially defatted 42%

peanut meal Peanut press cake (oil cake) that has been ground and that can be used as a fertilizer material (7.2-1.5-1.2); dry 1 lb/qt, 32 lb/bu

Composition	Seed (without coats)	
	Mechanically extracted	Solvent-extracted
Dry matter (%)	93	92
Protein (%)	48	48
Fat (%)	6	1.3
Fiber (%)	7	10
Ash (%)	5	5.8

See Part 2: Oil Meals, Composition

peanut oil (arachis oil) A colorless, brilliant oil extracted from the peanut (which contain 47–50% oil)

Types:

Virgin (highest grade)—cold-pressed oil from the first pressing

Refined—made by crushing and cooking peanut pulp to obtain crude oil, which is then given a

chemical treatment to neutralize flavor and to deodorize and bleach the oil
 1 qt = 4 cups
 1 cup = 210 g (7.4 oz)
 Composition (fatty acids): arachidic 1-3%; behenic 2%; lignoceric 1%; linoleic 26-35%; oleic 40-56%; palmitic 8-11%; stearic 2-3%
 Properties:
 Free fatty acid (as oleic)—0.12-0.24%
 Iodine value—85-105
 Melting point— - 2°C
 Refractive index (15.5°C)—1.471-1.474
 Saponification value—185-195
 Saturated fatty acid—15-23%
 Smoke point—200-230°C
 Specific gravity 15°C—0.914
 Titer—26-32°C
 Unsaponifiable matter— < 1%
 See Part 2: Fat and Oils, Composition I; Fats and Oils,

Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Oil, Triglyceride Mole Percent Composition; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Specific Gravities, Fats and Oils; Spoilage, Fat in Food; Titer, Fats and Oils; Tocopherols

pea, petit pois A very sweet pea; popular in France

pea, purple-podded A pea plant with foliage, flowers, and pods that have a purple color; the peas may be used fresh or dried like normal peas

pear (*Pyrus communis*) A tree (originally from Central Asia) of the genus *Pyrus* that bears an elongated, fleshy fruit (pome) that often has a gritty texture; 70-80% edible; avg. yield 120 lb/tree; bearing age 4-5 yr; spray applications 8; useful life 15 yr

Variety	Fruit		Season	Dessert quality	Storage	Use
	Size	Color				
French or European type (<i>P. communis</i>)—high-quality; susceptible to fire blight						
Anjou	Large	Light green	Winter	Good	Good	Fresh
Aurora	Large	Golden; pink blush	Early	Good	Good; ripen at 60–65°F	Canning; fresh; dried, shipping
Bartlett						
Bosc	Good	Yellow, brown russet	Fall–early winter			
Butirra di Roma	Large	Blushed yellow	Early	Excellent	Good	
Butirra Precoce	Large	Blushed yellow	Early			
Morettini	Very large		Early	Good	Good	
Butirra Rosata						
Morettini	Large	Yellow, red blush	Early	Good	Good	
California						
Clapps Favorite	Large	Yellow, red blush		Good		
Comice	Large	Greenish yellow	Winter	Excellent	Good	Fresh
Dawn (fire-blight-resistant)	Med.		Very early	Good–excellent		
El Dorado	Large	Yellow	Winter	Excellent	Good	
Gorham	Good		Early–midseason		Fair	Canning; baby food; fruit mix
Hardy						
Highland	Med.	Lightly russet	Early–mid-Sept.	Good–excellent	Good	
Magness (fire-blight-resistant)						
Maxine (fire-blight-resistant)	Large	Yellow	Sept.–Oct.	Good		Fresh, canning
Moonglow (fire-blight-resistant)	Large	Yellow, red blush	Very early; Aug.	Good–excellent		Processing; fresh
Packham's Triump	Large	Yellow	Early–midseason		Good	Fresh
Red Anjou	Small	Red	Winter	Good	Good	
Red Comice	Large	Red	Winter	Excellent	Good	Fresh
Reimer Red	Large	Red blush	Winter	Good	Good	
Rogue Red	Large	Red blush	Winter		Good	
Rosired Bartlett	Small–med.	Yellowish brown; brushed brownish red	Early–midseason	Excellent		Home use; local market; spiced and pickled; preserves
Seckel (Sugar Pear) (fire-blight-resistant)						
Sensation		Red				
Red Bartlett or Mock's William						
Starkcrimson		Red	Early	Excellent		
Winter Nellis		Med. to light green	Nov.–May			
Hybrid (<i>P. communis</i> × oriental species)—more resistant to fire blight and therefore used in the South						
Baldwin	Med.–large	Yellow	Sept.–Oct.	Good	Ripen at°F 60–65 in 2–3 weeks	Fresh; processed Home use; canning
Kieffer				Low		

(Continued)

548 pear (*Pyrus communis*)

Variety	Fruit		Season	Dessert quality	Storage	Use
	Size	Color				
Hybrid (continued)						
Orient	Large	Greenish	Aug.-Sept.	Fair		Canning
Waite	Small		Sept.-Oct.	Fair-good		
Asian or Oriental (<i>P. serotina</i> and <i>P. ussuriensis</i>)—also called apple pear; subacid flavor; resistant to fire blight and bacterial canker						
Chojuro		Russetted skin	Sept.			
Nijisseiki		Yellow	Sept.		Good	
Shinseiki	Small		Aug.			
Tsu Li	Large	Light green; russetted	Oct.		Good	
Ya Li	Large	Light green; russetted	Oct.		Good	

To prevent darkening: After cutting, dip into grapefruit, lemon, lime, orange, or pineapple juice or place in cold water containing 2 tbsp salt/gal and 2 tbsp vinegar/gal

Uses: canning; consumed fresh; pear cider; preserves

Types:

Chinese sand—edible when cooked

Common—used for dessert

Snow—used for juice

Classifications:

Summer varieties—eaten fresh; also canned or shipped

Bartlett—large; uneven yellow-colored (reddish bluish) skin; white, juicy flesh

Winter varieties—cold storage

Anjou—smooth, thin skin (green to yellow); very juicy

Bosc—large; russet, brown skin; buttery flesh

Clairegeau—yellow skin with pink cheek; granular flesh

Comice—smooth, pale yellow skin, with some russet, red bluish; juicy flesh

Easter—large; green to yellow, russet skin; stores well

Hardy—large; green, russeted skin; white flesh

Winter Nellis—small; green to yellow, russet skin; long, curved stem; juicy flesh

Other varieties

Kieffer—oval; coarse skin (yellow, russet, or brown); firm flesh; medium size; ripening improves taste and texture and makes flesh juicy; cans well

Seckel—small, obovate shape; smooth, tough bronze skin that has a spicy flavor; used for pickling and preserving

Canned styles:

Bartlett

Halves, peeled and cored

Halves, unpeeled and cored

Melba—large halves

Whole, peeled (stem on) and spiced

Kieffer

Halves, peeled and cored

Quarters, peeled and cored

Slices, peeled and cored

Whole, peeled (stem on) and spiced

Bosc

Halves, unpeeled and cored

Canned sizes: chips (usually in fruit cocktail); diced (usually in fruit cocktail); halves; mixed pieces (irregular sizes and shapes); quarters; slices; whole (usually colored and spiced)

Can size	Count per can				
	Whole, spiced	Halves			
		Melba	Fancy	Choice	Standard
2½	9	5	9	11	14
10	33	19	28	32	40

Canned in: water; slightly sweetened water; juice; light syrup; heavy syrup; extra-heavy syrup

Dried style: unpeeled halves

Refuse: 10%

1 bu, fresh = 50 lb

= 40–50 pt, frozen

= 18–27 qt, canned

1 Western box (8.5 × 11.5 × 18 in.), fresh

= 46 pounds

= 37 to 46 pt, frozen

1 case (24) No. 2½ cans = 1.1 bu, fresh

8 lb = 4–5 qt

= 7–8 pt pickled pears

1 qt, canned = 2–3 lb, fresh

= 5–6 med. pears

1 lb, fresh

= 3–4 servings

= 3 med. pears

= 2 cups, fresh, sliced [1 cup = 160 g (5.6 oz)]

1 lb, dried = 30 halves

= 8–15 servings

= 5.5 fresh pears

1 pt, frozen = 1–1.25 lb, fresh

16 oz, canned = 4 servings, with liquid

= 2–3 servings, drained

8 oz, dried = 4 servings

1 med. pear = 0.5–1 cup, peeled and sliced

1 pear (3 × 2½ in.) = 6.4 oz

1 cup, quartered = 6.8 oz

1 cup, slices = 5.8 oz

1 cup, finely chopped = 1 med. pear

1 cup, canned, solid and liquid = 8–9 oz

1 cup, drained = 5.6 oz

1 serving = 2 halves, dried

Composition (raw): moisture 83%; protein 1%; fat 0.4%; carbohydrate 15%; fiber 2.3% (canned 1.1%); ash 0.4%; pH 3.9–4.9; vitamin A 20 IU/100 g; ascorbic acid 4 mg/100 g

Dried pears contain 15–18% moisture.

Shipping: immediately after harvest; case temperature 28–31°F

Storage: cool (28–31°F); in a dark, moist (85–90% relative humidity) place; better flavor if picked when green and ripened indoors

Storage (long-term): 30°F, 2% O₂, 1% CO₂
To ripen: 60–70°F, 80–85% relative humidity; when ripe, use within 3–5 days.

See **pear, canned; pickle**

See Part 2: Canned Spoilage Related to pH; Canned Yield; Flavor Ingredients, Taste and Flavor Type; Fruit and Nut Rootstock; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Dried, Simmering; Fruit Frozen Yield; Fruit, Growing Season, Storage Life; Fruit Harvest; Fruit Harvest Dates; Fruit, Servings per Pound; Fruit, Simmering; Fruit Storage; Minerals, Food; Minerals (Trace), Limits; Organic Acids in Fruits and Vegetables; Pear Firmness; Plant Foods, Composition; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Storage, Dry; Storage Times; Sugar, Fruit; Wine, Sweet

pears, canned In addition to pears, may contain natural and artificial flavors, spices, vinegar, lemon juice or other organic acids, and salt
Styles: halves; mixed pieces, quarters; slices; whole (usually colored and spiced)

Packed in:

Water

Slightly sweetened water

Juice

Extra light—< 14% sucrose

Light syrup—14–18% sucrose

Heavy syrup—18–22% sucrose

Extra-heavy syrup—22–25% sucrose

pear cheese A light, creamy tan, pear-shaped cheese; sometimes fried in olive oil before eating

pear decline A pear disease that is caused by a mycoplasma-like organism and results in either a quick decline (or tree collapse) or a slow decline, leaf curl, and fewer and smaller fruit

pearl 1) A variety of millet. 2) See **cultured pearl; nacre; natural pearl**

pearl barley Polished, barley grain without the bran and lacking in gluten; processed by dehusking and grinding the barley; used in soups and stews See also **barley**

pearl hominy Coarse hominy grits See also **hominy**

pear-leaf blister mite (*Eriophyes pyri*) A small mite that causes blisters on unfolding leaves and russet spots on fruit.

Host: apple, pear

Damage: brown blister on underside of leaves and misshapened fruit

Control: insecticide

pearled Dehulled grain brushed by machine into smooth small particles

pearling See **rice**

pearl moss See **carrageen**

Pearl River Delta (Cantonese) Pig A prolific, black and white lard-type pig found in southern China and that has short erect ears, a sway back, and a pot belly

pearl tapioca Dough made from tapioca flour, forced through a sieve and then heated to high temperature; usually made in three sizes—coarse, medium, or fine

pearl wine Carbonated, grape juice wine

pear tomato See **tomato**

pear midge (*Contarinia pyrivora*) An insect in which the adult is a tiny fly that resembles a mosquito; the larva is a pale beige or pale orange maggot; adults lay eggs in swelling buds; the maggots feed on ovaries or the insides of young fruit causing deformed pears and early dropping

pear nectar

1 cup = 8.5–8.7 ounces

pear, prickly The fruit from several species of cacti; varies greatly in size and appearance; a weak but refreshing pulp containing numerous large seeds, which can be eaten

pear psylla (*Psylla pyricola*) A pest of the pear; the adult is $\frac{1}{10}$ in. long and reddish brown with transparent wings over its body; the nymph is flattened and yellowish and often covered with honeydew; as it grows it becomes greenish or brownish black. It sucks sap from foliage, reduces pear size, and produces honeydew on leaves, twigs, and fruit upon which black sooty mold grows; also causes the pear skin to become scarred

Control: fruit tree oil spray

pear ring pattern mosaic A virus that causes light green to yellow rings or lines on pear leaves

pear rust mite (*Epitrimerus pyri*) A small mite that feeds on pear leaves and fruit; foliage becomes bronze and fruit has a smooth russetting

pear slug (cherry slug; *Caliroa cerasi*) The adult is a shiny black, $\frac{1}{2}$ -in. sawfly; the larva is a slimy, olive green or black, $\frac{1}{2}$ -in. long slug that resembles a snail and that feeds on the upper surface of pear foliage or cherry leaves. It retards the growth and development of fruit

pear thrip (*Taeniothrips inconsequens*) The adult is $\frac{1}{25}$ of an inch long, slim, and dark brown with feathery wings; the larva is white, resembles the adult, and feeds on developing pears and causes them to shrivel and turn brown or causes russetting

pear vein yellows A virus that causes chlorotic bands to form along smaller veins of pear leaves

peas and carrots A mixture of 50–75% peas and 25–50% sliced or diced carrots

pea, snow (China pea; ho lohn dow; sugar pea)

A sweet, tender pea with an edible pod

Varieties:

Dwarf—Gray Sugar

Mammoth—Melting Sugar

1 cup = 2.5 ounces

12 snow peas = 1 ounce

Storage: unwashed in a plastic bag in refrigerator See **pea, edible podded**

pea, southern (blackeye pea; cowpea) See **cowpea**

See Part 2: Beans or Peas Planting Guide

pea, split Dried peas with the outer skin removed
Preparation: can be used in soup without soaking; soak for $\frac{1}{2}$ hour for general cooking

pea, split, soup See Part 2: Soup Composition

550 pea, split (with ham), canned soup

pea, split (with ham), canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	65.7	81.8
Protein (%)	7.7	4.1
Fat (%)	3.3	1.7
Carbohydrate (%)	20.8	11.0
Fiber (%)	0.5	0.3
Ash (%)	2.6	1.4

pea, split (with ham), chunky, canned soup

Composition (ready to serve): moisture 80.9%; protein 4.6%; fat 1.7%; carbohydrate 11.2%; ash 1.6%

pea sprout Sprouts grown from mung peas that have white shoots and green hoods

pea, sugar An edible podded pea; young pod may be eaten; 225 seeds/oz; 9 day germination

Variety:

Dwarf Sweetgreen

Mange Tout

Sweetpod

See **pea, edible podded**

pea (and bean) weevil A pest that eats around the leaf edge of young pea or bean plants in a fairly uniform path

See Part 2: Insect Control

pebre d'ai A valençay-type cheese made from goat's or sheep's milk and rolled in small balls and covered with rosemary or savory twigs

pecan (*Carya illinoensis*; *C. oliviformis*) A large North American tree that produces a hard-shelled nut that may be eaten as a snack or used in many confectionery and cooked items; the nut has a mild, sweet walnutlike flavor; a variety of butternut; highest oil content of all nuts. Papershell refers to any thin-shelled pecan

Size:

Unshelled

Extra large—often polished and waxed

Large-medium

Small

Shelled

Extra fancy—300 halves per pound

Fancy—450 halves per pound

Selected—650 halves per pound

Pieces—broken halves

Granules—finely chopped

Pecan variety	Nuts	Kernel quality	Tree
Hardy			
Native	Small		30 ft; hardy
Midwest Northern—hardier, earlier maturing			
Colby	Thin shell	Poor	Rapid growing; bears young; 30–40 ft; retains foliage late in year
Frity			Very hardy
Greenriver		Good	Susceptible to spring frost
Major	Medium size, round, thin shell	Good	Good producer
Peruque	Thin shell	Good	30–40 ft; hardy
Southeast			
Chickasaw		Fair	
Desirable		Good	
Elliott		Fair	
Farley		Excellent	
Giant Mahan	Large, long slender	Poor	
Kernodle		Good	
Schley		Excellent	
Southwest			
Ideal		Good	
San Saba Imp		Good	
Sioux		Excellent	
Western		Good	
Wichita		Excellent	

peat Carbonized vegetable matter; precursor of coal; cut into thin oblong blocks and sun dried; used as fuel

peat moss A milled, partially decomposed vegetable material found in swamps; prevents compacting of soil; good mulching material

46% Refuse:

2½ pound (lb), in shell = 1 lb, shelled

1 lb, unshelled

= 8.5 ounce (oz), shelled, halves

= 2–2.25 cups, shelled, halves

= 2 cups, in shell

- 1 lb, shelled = 3-4 cups, halves
 = 200-225 mammoth size halves
 = 3.5-4 cups, chopped
 1 cup, chopped = 120 grams (g; 4.2 oz)
 1 cup, halves = 110 g (3.8 oz)
 1 tbsp, chopped = 7 g
 1 pecan half = 1 g

Composition: moisture 3%; protein 9%; fat 71%; carbohydrate 15%; ash 2%; sodium 1 mg/cup (118 g); 10 jumbo halves or 15 large halves = 95 calories

Storage: store in dry, cool, place protected from insects and odors; times and temperatures as follows:

	70-90°F	38-40°F	0°F
Unshelled	4 months	18 months	4 years
Halves	2 months	9 months	2 years
Pieces	20 days	3 months	9 months

See Part 2: Beans, Peas and Nuts; Food, Composition; Minerals, Food; Nut, Grades; Pecan Varieties; Plant Foods, Composition; Tocopherols

pecan bud moth The adult is a small, gray moth with blackish brown patches on its front wings; the larva is yellowish green with a dark brown head and neck and is up to $\frac{5}{8}$ in. long; the larva feed on leaves and terminal buds of pecan trees

pecan phylloxera A small soft-bodied insect that resembles an aphid; causes galls on pecan trees

pecan, pie

Composition ($\frac{1}{8}$ of 9 in. pie): sodium 241 mg 1 slice (71 g); calories 430 1 slice (71 g)

pecan weevil The adult is a brownish beetle that is $\frac{1}{2}$ in. long with a long beak; the larva is a whitish grub up to $\frac{1}{2}$ in. long and $\frac{1}{8}$ in. in diameter; causes immature, soft-shelled pecan nuts

peche melba A dessert made with peaches and ice cream; sometimes with raspberries and green almonds

pechora herring (*Clupea harenqus suworowi*) A food fish

peck [Imperial (Brit); pk] A dry measure of volume

- 1 pk = 554.6 cubic inches
 = 9.092 liters (l)
 = 8 Brit. quarts (Bt.; qt)

peck (pk; U.S.) A dry measure of volume used chiefly for raw vegetables (e.g., potatoes) and fruit

- 1 pk = 537.6 cubic inches (in.³)
 = 16 pints (pt)
 = 8.809 liters (l)
 = 8 quarts (qt; dry)
 = 2 gallon (gal)
 = 0.25 bushel (bu)

4 pk = 1 bu

pecorino An Italian cheese made from ewe's milk

pecorino di tavola A sharp, semihard table cheese

pecorino romano A hard, dry, gray-white, grating cheese made from sheep's milk and with a brown or black rind

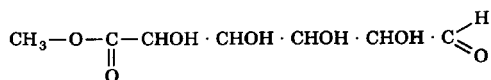
pecorino siciliano See *canestrato*

pecten (*pectinidae*) A genus of bivalve mollusks, e.g., scallop

pectic acid (C₁₇H₂₄O₁₆) A dibasic organic acid derived from pectin by chemical treatment; used as a food acidulant

See Part 2: Pectic Acid Formula

pectin A colorless, flavorless, water-soluble carbohydrate (pectinic acid) polymer made up of varying numbers of the 1 and 4 linked methyl esters of β -galacturonic acid



A hydrophilic, colloidal carbohydrate (polysaccharide triad) obtained by acid extraction of citrus fruit rinds (20-30%) or apple pomace (10-15%); it is found in just-ripe fruits (underripe fruit has more pectin) and has strong gelling properties that are used in cooking. It is used as a gelling agent because of its swelling power at concentrations of less than 1% (0.1-0.4 in jams and jellies); gel power is usually standardized with sugar

Forms: liquid and powder

Low ester—100 gel power

High ester—150 jelly grade

May also contain buffers such as sodium citrate or sodium bicarbonate

Fruit high in pectin

High in acid

Apple, sour (including crab)

Blackberry, sour

Currant, red

Gooseberry

Grape, eastern

Guava, sour

Lemon

Loganberry

Orange, sour

Plum (most)

Prune, sour

Low in acid

Apple, sweet

Banana, unripe

Fig, unripe

Pear, unripe

Prune, sweet

Quince, ripe (some)

Fruit low in pectin

Apricot

Fig, ripe

Fruit, overripe

Grape, European

Peach

Pomegranate

Raspberry

Strawberry

Used as a jelling agent, thickener, stabilizer, and emulsifier

1 tbsp powdered pectin = 0.44 oz

Storage: well-closed container; in a cool, dry place; do not hold over from one year to the next

See Part 2: Bananas, Composition; Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Minerals (Trace), Limits; Pectin; Pectin Content; Pectin Formula

pectin added Natural pectin added to give jelling properties

pectin and fruit acid added Natural pectin and fruit acid added to give jelling properties

pectinase An enzyme present in the pith of citrus fruits that hydrolyses pectin or pectic acids; a group of enzymes that hydrolyze pectic substances

pectin-hydrolyzing enzyme An enzyme used in the wine industry to clarify fruit juices; pectin may cause turbidity

pectinic acid Colloidal polygalacturonic acid containing some methyl ester groups; capable of forming gels (jellies) with sugar and acid *See also* **pectin**

pectoral Muscles that attach the ventral end of the scapula and the dorsal end of the humerus to the sternum; they make up most of the brisket (chest or breast); thoracic (lungs)

pedah-kemburg *Rastrelliger* or *Scomber* dried fish

pedah siam *See* **pedah-kemburg**

pedigree A written record of an animal's ancestry for at least three generations

pedrocchino An herb liqueur

pedroches A golden, hard, pressed cheese made from sheep's milk

peduncle *See* Part 2: Fish Nomenclature

peel To remove outer covering or rind of a fruit or vegetable by hand or by 2% lye solution *See also* **pare**

See Part 2: Orange Structure

peelability (sausage) Acidification with vinegar (35–40 grains) or 5% citric acid; spray prior to or after smoking

peeled shrimp Shrimp from which the shells have been removed

peeler A device or person used to remove peel or skin, e.g., peeling skinless frankfurters

peeling Outer layer or covering removed

peewee A small lamb; small

peh-khak Gray-white, dried balls of starter containing bacteria, molds, and yeast on starch or cereal base; used for inoculum of fermented food

pehtze Fermented sufu, soybean curd that is then aged

peh-yuek Gray-white, dried balls of starter containing bacteria, molds, and yeast on starch or cereal base; used as inoculum for lao-chao

Peichow (Subeichu) A prolific, black, pig from Kiangsu province, China that has long ears, a sway back, and pendulous belly

Peizer TB medium *See* Part 2: Microorganism, Media

pejerrey (*Odonthestes bonariensis*) An Argentinian food fish

pejibave A small brown fruit from the palm tree; has a thin skin, single seed or seedless, and a mealy flesh; boiled and eaten or dried or ground into meal

pekelworst A salami ripened for two days in brine and then dried

Peking Black and White (Peking Black Pied) Large, black and white, dairy cattle obtained by crossing U.S. Holstein-Friesian bulls with Japanese Pinchow cows

Peking Black Pied *See* **Peking Black and White**

Peking duck (Pekin duck) A white duck, originally from China, that has an orange-yellow bill, reddish yellow shank and feet and yellow skin; produces 160 tinted white eggs per year

See Part 2: Poultry Dressing Percentage; Poultry Yield

pek-khato Gray-white, dried balls of starter containing bacteria, molds, and yeast on starch or cereal base; used as inoculum for fermented foods

pekoe Leaf grade of black tea *See* **orange pekoe**

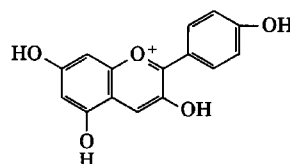
pekoni A moist, cooked, smoked Finnish sausage made from finely chopped, mildly seasoned beef and pork; made with 1-cm lean pork pieces and stuffed into 75-mm artificial casings

pek tong quay A fried wheat flour dough pie filled with cheese, fish, meat, and, sometimes, fruit

pelagic fish Fish that live near the surface of the sea; 55% of such fish is edible; examples are herring, mackerel, and mullet; edible portion has 16% avg. protein; 15% avg. fat for herring and mackerel

pelardou A cheese made from goat's milk

pelargonidin One of the anthocyanidins responsible for the red color in fruits and vegetables



pellagra A disease in humans caused by deficiency of niacin (nicotinic acid); the skin becomes rough and irritated; the mouth becomes sore and the tongue becomes red, sore, and swollen; in dogs this disease is called black tongue

pellet An agglomerated food formed by compacting and mechanically forcing through a die

pellicle A thin microbial growth membrane on the surface of a liquid culture

pellucid Transparent

pelt The skin of a hair, wool, or fur-bearing animal, with hair attached

pelvis The hip bone, which is attached to the femur and is made up of the ischium and ilium areas

See Part 2: Bone; Lamb, Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

pelyad (*Coregonus peled*) A food fish found in Russia

pemmican (pemican) Lean meat dried in the sun and then ground with fat to form a paste or a mixture of dried meat, fruits, and vegetables; a combination of dried (sun dried or smoked) meat, fat, and dried berries; lean beef, buffalo, or reindeer meat pounded and mixed with vegetables and fruit and sealed in fat; concentrated nourishment that keeps well

pen A cage or enclosure for restraining animals

penedes A type of red, white, and sparkling wine

penetrometer A device that measures firmness or texture and possibly tenderness by using depth of penetration

penholder An animal left in a pen to keep other animals from being placed in the pen

-penia A suffix meaning need or lack

penicillin An antibiotic agent produced by the mold *Penicillium notatum* or *P. chrysogenum* that is effective against Gram-positive and a few Gram-negative bacteria; there are a number of different types. Many individuals are allergic to it, and such reactions can be serious. A drug that promotes growth and feed efficiency in animals

See Part 2: Antibiotic Standards; Mold, Food; Molds, Mycotoxins; Rot Spoilage; Spoilage, Carbohydrate Foods; Spoilage, Protein Foods; Wastes, Agricultural and Industrial

penicillium rot (blue-mold rot) A rot in pomegranates caused by *Penicillium expansum* or other *Penicillium* species; it starts in splits, cracks, or wounds and forms pockets of blue or green spored colonies

Penistone A hill breed of British sheep

pennycress (*Thlaspi arvense*) An annual weed

pennyroyal (*Mentha pulegium*) A perennial garden herb whose leaves have a mint-like flavor; fresh or dried mint used to flavor food

American pennyroyal—(*Hedeoma pulegioides*)

pennyroyal oil (*Mentha pulegium*) A reddish-yellow essential oil, used in perfumery and flavoring; a volatile oil obtained by steam distillation; used as a mint-like flavoring agent for food

Storage: full, tight container in a cool, dark place

See Part 2: Essential Oils

pennyweight (dwt; Troy) A measure of weight

1 pennyweight

= 24 grains

= 1.5551740 grams (g)

= 1.2 scruples (apothecary)

= 0.8777143 dram (avoirdupois)

= 0.4 dram (apothecary)

= 0.0548571 ounce (oz; avoirdupois)

= 0.05 ounce (oz; apothecary; troy)

= 0.004166667 pound (lb; apothecary; troy)

= 0.003428571 pound (lb; avoirdupois)

penoche (penuche) A fudge-like candy made from brown sugar, milk, butter, and sometimes nuts

pentadecanoic acid [$\text{CH}_3(\text{CH}_2)_{13}\text{COOH}$] A saturated fatty acid made synthetically

See Part 2: Fatty Acids and Their Properties

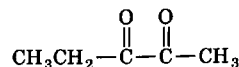
pentaerythritol ester of partially hydrogenated wood rosin Used as a masticatory material in chewing gum

Storage: well-closed container

pentaerythritol ester of wood rosin Used as a masticatory substance in chewing gum

Storage: well-closed container

2,3-pentanedione



Used as a buttery flavoring agent in food; sp. gr. 0.951–0.963

Storage: full, tight, glass container in a cool, dark place

2-pentanone ($\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_3$) Used as a floral-like flavoring agent in food; sp. gr. 0.800–0.806

Storage: tight container

pentele A Romanian cheese made from sheep's milk

penteleu A low-fat provolone-type cheese made from sheep's milk

pentosan A carbohydrate mixture (hemicellulose) occurring in cereal plants, brans, etc.

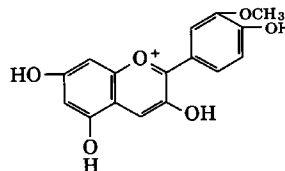
See Part 2: Pentosans; Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat, Parts of Grain

pentose A 5-carbon sugar ($\text{C}_5\text{H}_{10}\text{O}_5$)

penuche See **panocha**

penuchi See **panocha**

peonidin One of the anthocyanides responsible for the red color in fruits and vegetables



people See Part 2: Population

peorino sardo A hard, very dry, strong flavored, grating cheese made from sheep's milk

pepato A hard, dry, sharp, table and grating cheese made from sheep's milk and flavored with whole black peppercorns

peperami A 10–15-mm diameter beef and pork peperoni

peperoni A dry, uncooked, unsmoked Australian sausage made from medium chopped, heavily seasoned, beef that is fermented and stuffed into artificial casings See **pepperoni**

pepino A yellow, acid, South American fruit

pepitos Seeds that are deep-fat-fried and salted

pepo A subdivision of simple fruit; it has a fleshy ovary wall enclosing one or more seeds, attached to a fleshy placenta and has a hard rind covering; examples are cantaloupe, cucumber, pumpkin, squash, and watermelon. Fruit of cucurbit or gourd family

See Part 2: Fruit Classification; Vegetables, Classification

pepper A term used to define two different types of plants and fruits 1) Red, cayenne: bushy plants of genus *Capsicum*. 2) White and black pepper: climbing vine, *Piper nigrum*

See Part 2: Ascorbic Acid; Calories, Daily Recommendations; Essential Oils; Flavoring Agents, Natural; Fruit and Vegetable, Diseases; Minerals, Food; Plant

554 pepper

Foods, Composition; Riboflavin; Spices, Microbial Content; Storage; Sugar, Vegetables; Transit Temperature; Vegetable Composition; Vegetable Frozen Yield; Vegetable Plants; Vegetables, Classification; Vegetable Storage; Vitamin A; Vitamin C

pepper (bell; cayenne; chili; globe; green; mango; red; *Capsicum*)

Most peppers grown in U.S.—*Capsicum annuum*

Red hot, tabasco pepper—*C. frutescens*

A bushy annual plant with a wide range of varieties whose seed pod is used as food; pungency due to capscin.

Crushed: $\frac{1}{4}$ – $\frac{1}{8}$ in.; flesh to seed ratio, greater than 50%

Red pepper: very hot, pungent; ground (extra fine) and dried

Hot, red peppers or chilies of various types: highly aromatic and very hot (can be blended to produce desired heat levels, e.g., 20,000, 25,000, 35,000, and 60,000 Scoville heat units); used in chili, beans, and Tex/Mex dishes

Transplant 18–24 in. in rows 24–36 in. apart; matures in 120 days; yield 1 bu/20 ft row

Source: Mainland China, Mexico, Pakistan

Capsicum types	Immature color	Mature color	Shape	Pungency	Use
Sweet pepper	Green	Red, yellow brown	Long and narrow to spherical	Mild to medium hot	To make paprika, salads, vegetable, pickled
Red pepper	Green	Bright red	Variable but smaller than above	Medium hot to hot	Dried
Chili				Very hot	Dried, curry powder, pickles, tobasco sauce

Pepper type	Subtype	Variety	Season (days)	Shape	Immature color	Mature color	Pungency	Use
Celestial—cone-shaped, $\frac{3}{4}$ –2 in., three-celled; many colors even on same plant								
		Celestial Floral Gem Fresno Chili						
Hot	Banana	Hungarian Wax	65	Banana, 7–8 in.	Yellow	Red	Hot-sweet	Canning, pickling
	Red			Variable but smaller than sweet	Green	Bright red	Medium hot to hot	Dried
	Cherry (<i>C. f. cerasiforme</i>)	Birds Eye		Globuse, three-celled	Orange-red	Sweet or hot		Pungent, seasoning
		Red Cherry (small and large)	69	Flattened globe, large or small, three celled	Green	Cherry red	Sweet or hot	Pungent, seasoning
		Yellow Cherry		Globuse, three celled			Sweet or hot	Pungent, seasoning
	Cone (<i>C. f. conoides</i>)			Small, linear, pointed, 1.5 in. long				
	Tabasco or Red Cluster	Chili Piquin		1 × 3 in., three-celled, long tapered			Very hot	Dried, sauce
		Coral Gem		Slim, tapering			Very hot	Sauce, dried
		Cayenne		Very small, long tapering			Very hot	Sauce, dried
		Japanese Cluster		Long tapered, 1 × 3 in.			Very hot	Sauce, dried
		Orange Red Cluster					Very hot	Dried
		Small Red Chili		Slim tapering			Very hot	Sauce, dried
		Tabasco		Long tapered, 1 × 3 in., three-celled			Very hot	Sauce, dried

(Continued)

Pepper type	Subtype	Variety	Season (days)	Shape	Immature color	Mature color	Pungency	Use	
Hot (continued)	Chili or Cayenne (<i>C. f. longum</i>)	Anaheim or New Mexico	77	Long, 6–12 in., tapered, two-celled	Green	Red	Mild to pungent	Fresh, dried, tacos, green sauce, chili pepper, chili powder, paprika (if sweet), oleoresin	
		Black Nubian Cayenne		4–12 in., pointed, wrinkled		Deep red	Hot	Hot sauce	
		Jalapeno	65	Sausage, 1.5 × 3 in., blunt point	Green	Red	Pungent, very hot	Eaten and relish, pickling, soup, canned by Escabeche	
		Ivory Tusk Large Red Thick	75	Medium thick, 6 in.				Cooking, dried	
		Long Red	72	Twisted, 5 in.	Dark green	Red	Fiery hot	Dried, sauces, processing	
		Red Chili		2 in., pointed, slim		Red	Hot	Hot sauce	
		Serrano		1.5 × 2.5 in., chubby, bullet shape				Green in salads	
		Very Small Yellow							
		Italian Sweet	Vineland	60	Pointed, 4 × 2 in.				
			Shepherd	68	Tapered, 7 in.		Red		
Paprika—milder See paprika									
Pimiento (perfection group) not related to allspice or pimento See pimiento . Immature color usually green and mature color usually red; semiconical, 3–4 in. long; relatively mild. Used for canning, stuffing olives, cheese, flavor, and color in salads									
		Bighart							
		Early Sweet Grant	73	Flat, 3 in.		Scarlet			
		Perfection Pimiento L.	75	Small		Red			
		Spanish Truhart							
		Perfection Burpee's Sunnybrook	72	Square, 2.5 in.	Green	Red			
Sweet (<i>C. f. grossum</i>) Immature color green; mature color red, yellow, brown. Sweet; long and narrow to spherical shape; mild to medium hot pungency. Used as a vegetable more than a spice, to make paprika, salads, and pickled. Eaten raw, roasted stuffed, baked									
		Aconcagua	70	Large, long				Frying	
		Bell (Bullnose)	70	Blocky, 3 × 4 in., 3–4 lobed	Green	Red, some yellow			
		Bell Boy	75	Blocky, 4.5 in., 4 lobed	Deep green	Deep red		Stuffing	
		Burpee's Tasty Hybrid	70	Blocky, 3 lobed	Medium dark green	Scarlet			
		California Wonder	105	Blocky, 3 × 4 in., good size, 4 lobed	Deep green	Crimson		Sweet, stuffing, salads	
		Canape	60	3.5 × 2.5 in., 3 lobed	Deep green	Red			
		Cherry Sweet	78	Round, small, 1.5 in.	Green	Scarlet		Pickling	
		Cubanelle	65	6 × 2 in., smooth, tapered	Yellow-green	Red		Frying	

(Continued)

556 pepper (bell; cayenne; chili; globe; green; mango; red; *Capsicum*)

Pepper type	Subtype	Variety	Season (days)	Shape	Immature color	Mature color	Pungency	Use
Sweet (continued)		Delaware Belle Dutch Treet	70	4 in., conical	Yellow	Orange blushed red, yellow, red		Salads, raw, cooking
		Golden Bell	65	Bell, 4.5 in., 4 lobed	Green	Golden		
		Hungarian Sweet (Yellow Banana)	65-75	Banana, 6 × 1.5 in.	Yellow	Crimson		Canning, pickling
		Keystone Resistant Giant	80	4.5 × 3.75 in.	Dark green			
		King of the North						
		Long Yellows Sweet	65	Banana, 6 in.	Yellow	Red		
		Oshkosh				Yellow		
		Park's Whopper	65	Blocky, 4 lobed				Slicing, cooking
		Parkwonder	65	Medium size		Scarlet		
		Penn Wonder						
		Peter Piper						
		Ruby King						
		Sweet Banana	72	Long, tapering, 6 × 1.75 in., heart-shaped	Green-yellow	Red		Salads, frying
		Sweet Early Prolific	Early					
		Sweet Yellow						
		Waltman Beauty						
		World Beater						
		Yale Wonder						
		Yolo Wonder	76	4 × 3.5 in., 3 or 4 lobed, blocky	Dark green	Red		

Consumed: fried, raw, steamed, stuffed and baked
Available:

Canned (green and red)

Freeze dried (2-3% moisture)—usually diced ($\frac{1}{4}$ in.)

Frozen (green and red)

Diced

Halves

Sliced

Whole, without stems

Whole, with stems

Stemless red pepper—red pepper with the caps and stems removed (effects texture and color) before grinding

Hotness is measured by thousands of heat units (M.H.U.)

	M.H.U.
Cayenne, West Indies	70,000
Chili	
Ground Turkish	50,000
Crushed Japanese	40,000

Red pepper heat units (Scoville test or extract capsaicin with alcohol and measure) ranges from 20,000-120,000

Equivalents:

1 part, freeze dried weight of green bell pepper = 18 parts, fresh weight

1 part, freeze dried weight of hot pepper = 17 parts, fresh weight

1 part, freeze dried weight of red bell pepper = 18 parts, fresh weight

1 crate (13.4 × 11 × 22 in.) = 50 pounds (lb)

1 bushel = 25 lb

$1\frac{1}{3}$ lb = 1 quart, frozen

0.67 lb, fresh = 1 pint, frozen

3 medium peppers = 1 lb

1 large pepper = 6 ounces (oz)

= 0.7-1 cup, chopped

1 medium pepper = 1 cup, coarsely chopped

= 0.75 cup, medium chopped

1 small pepper = 0.5 cup, finely chopped

1 cup, chopped = 5.2 oz

1 cup, strips, boiled, drained = 4.8 oz

1 medium pepper, boiled and drained = 4.8 oz

1 cup, strips = 3.4 oz

1 cup, slices = 2.8 oz

1 cup, seeded and finely chopped = 2 small peppers

1 serving = 0.5-1 medium to large size pepper

Composition	Dried	Fresh	Dried cayenne	Dried red
Moisture (%)	7.5-8.5	92		
	12 max.			
Protein (%)	11.5-15	1.2		
Fat (%)	17-18	0.2		
Carbohydrate (%)	56-57	6		
Fiber (%)	24-25			
Ash (%)	5.9-6.2		7 max.	8 max.

HCl insoluble ash 1% max. in dried product; freezing point 30.7°F

Storage	Temp. (°F)	Relative humidity (%)	Storage life
Dry chili	32-40	65-75	6 months
Sweet	45-50	85-90	8 days

See **capsicum; oleoresin, capsicum; red pepper**

See Part 2: Planting Density; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

pepper (*Piper nigrum*) A whole or ground spice made from the berries of the pepper vine (a climbing perennial) and used in seasoning

Black pepper—dried unripe fruit; entire berry including black coat is used; more pungent and aromatic than white pepper; available in fine and medium grind; quickly loses flavor when ground; has antioxidative activity. Black size (the finer the grind the more immediate the flavor but the shorter the shelf life):

Black pepper (continued)

Whole berry—peppercorn

Cracked

Coarse

Ground

Milling—many sizes available

Microground

White pepper—dried ripened fruit; black outside covering (mesocarp, hotness) is removed (soak, machine decorticated); milder than black because it contains less acrid resins; usually fine grind

Fruit (peppercorn) is red when ripe.

Country of origin is usually specified:

Lampong; Indonesian

Malabar; Indian

Saigon; Vietnamese and Cambodian

Flavor: warm, pleasant, pungent, and biting

Terms:

Bold—large, nicely formed peppercorns

Extra bold—extra large

Light berries—small, hollow berries that float in a water-alcohol solution

Tellicherry—a bold or extra bold, Indian (Malabar) pepper

Region	Area	Ports of shipment	Most popular pepper	Pepper properties	
				Black pepper	White pepper
Bangka (Indonesia)		Muntok	Muntok white		Good appearance, aroma, mild flavor
Brazil	Belem (Para)		Brazilian black Brazilian white	Smooth, black, very white endocarp, bland flavor	Light in color, less pungent, bland flavor
India	Coorg Kerala, (Malabar Coast)	Mangalore Alleppey (south)	Alleppey, Malabar, Malabar Alleppey	Large and uniform Good aroma, flavor, pungency	
	Madras Mysore Travancore	Malabar Tellicherry (north)	Tellicherry	Good aroma, flavor, pungency	
Malaysia	Sarawak	Kuching, Singapore	Sarawak black	Mild in odor, flavor, pungency	
Sarawak			Sarawak white		Superior uniform, light appearance
Sri Lanka			Sri Lankan black	Gray black, excellent aroma	
Sumatra (Indonesia)	Lampong	Singapore	Lampong black	Smaller, thin shell, good flavor, very pungent	

Range of standards (<i>Piper nigrum</i>)	Black pepper	Decorticated pepper	White pepper	Pepper oleoresin
Acid insoluble ash (max. %)	1.5	0.3	0.3	
Chavicine (%)	6			
Crude fiber (max. %)	15		5	
Foreign organic matter (max. %)	2		2	
Moisture (%)	12	12	15	
Nonvolatile ether extract (min. %)	6.75		7	
Peperine (%)	5-9			
Starch (min. %)	30		52	
Total ash (max. %)	7	3.5	3.5	
Volatile oil (%)	1-2.5	1.5	0.8-1	15-35

558 pepper (*Piper nigrum*)

100 peppercorns = 4.5 g

1 tsp = 3–4 g

Composition	Black pepper	White pepper
Moisture (%)	8.7–13	11–12
	13 max.	15 max.
Total ash (%)	3.1–6.4	1–2
Acid insoluble ash (%)	0–1.4	
Water insoluble ash (%)	1.5–3.0	
Crude fiber (%)	8.5–16	4–5
Fixed oil (%)	6.1–10.7	
Nonvolatile extract (%)	8–10	
Volatile oil (v/w; %)	0.6–3	1.5–1.7
Alcohol extract (%)	8.5–11.9	
Starch (%)	22–40	
Total nitrogen (%)	1.8–2.5	
Protein (%)	11	10–11
Fat (%)	9–10	7.5–8.5
Carbohydrate (%)	65	68–69

Composition [ground pepper, 1 tsp (2.9 g)]: protein 0.3 g; fat 0.2 g; carbohydrate 1.0 g; sodium 4.0 mg; copper 0.02 mg;

Defect action level:

Average of 1% insect-infested and/or moldy pieces by weight

Average of 1 mg excreta/pound (approximately 2 ppm by weight)

See **pepper, black; pepper black, decorticated; pepper green; pepper white**

pepper, banana 6-in., deep yellow, hot peppers that are packed in vinegar

pepper, black The dried, immature *Piper nigrum* berry used as a spice and made into pepper oleoresin and pepper oil See **pepper (*Piper nigrum* L.)**

pepper, black, decorticated A form of white pepper produced by mechanical removal of the skin of black peppercorns; flavor closer to black pepper than to white

pepper, black, oil An oil that is steam-distilled from black pepper; has the same flavor and aroma as the spice but less pungency

pepper cheese A pepper-flavored cheese that is used on crackers

peppercorn Seed or berry of pepper vine; whole pepper
20 peppercorn, packed in wine vinegar or brine
= 1 tsp

pepper cream cheese A neufchâtel cheese containing 10% red peppers

peppercress See **watercress**

pepper, dehydrated sweet bell

Form	Use
Diced, $\frac{1}{4}$ and $\frac{3}{8}$ in.	Sauces
Flakes	Pickles, pizza, oriental foods, and canned meat
Granulated	Dry and prepared foods
Powdered	Dry and prepared foods
Minced	Sauces
Slices	Pickles, pizza, oriental foods, and canned meat
Stripes	Pickles, pizza, oriental foods, and canned meat

pepper dulse (*Laurencia pinnatifida*) A red seaweed used as a spice

peppered loaf A pressed, cooked meat specialty loaf made from beef and pork and seasoned with cracked peppercorn
Composition: moisture 67.4%; protein 17%; fat 6.4%; carbohydrate 4.6%; ash 4.4%
See Part 2: Sausage Identification

pepper grass A species of cress See **curled cress; garden cress**

pepper, green A green (immature) pepper (black peppercorn) produced by artificially drying or bottling in vinegar, brine, or water; red and yellow sorts before they turn color See **pepper (*Capsicum*)**

pepper, green sweet A sweet, green, yellow, or red bell-shaped pepper

pepper, Jamaica (allspice; *Pimenta dioica*) See **allspice**

pepper, long (*Piper longum*) A climbing, pepper plant from India whose spike (2–3 cm) is used as a spice; dried root is also used as a drug

pepper, melegueta (*Fromomum melegueta*)

peppermint (balm mint; brandy mint; curled mint; *Mentha piperita*) 1) A perennial, 2-ft tall, mint-like herb; 80 days to maturity. Dried leaves of peppermint plant cultivated in Washington. Oil of peppermint is obtained by distillation of the leaves and flowers; chief constituent is menthol. Used for flavoring liquor, confectionery chewing gum, herbal tea, sauces, mint jelly, drinks, etc.

Types:

American (American mint; state mint)—less oil (80–100 lb/acre) than black

Black (black mint; English peppermint; Mitcham mint)

White—preferred

1 part, freeze-dried weight = 10.5 parts, fresh weight

Variety: Curly mint

2) A candy flavored with peppermint See **mint**

See Part 2: Essential Oils

peppermint oil An essential oil obtained by steam distillation of the *Mentha piperita* plant; used as a peppermint-like flavoring agent for food; sp. gr. 0.896–0.909

Storage: full, tight container in a cool, dark place

peppermint schnapps A schnapps-type spirit flavored with peppermint

pepper, nepaul Ground from yellow peppers and slightly less pungent than red pepper

pepper oil (*Piper nigrum*) Oil obtained by steam distillation of dried immature pepper berries; refractive index 1.480–1.499 at 20°C; sp. gr. 0.890–0.900 at 20°C

pepper oil, black A volatile oil obtained by steam distillation of the unripe fruit of *Piper nigrum*; used as a pepper-like flavoring agent for food; sp. gr. 0.864–0.885

Storage: full, tight, glass container in a cool, dark place

pepper oleoresin A green to yellow-green, viscous liquid (settles on storage) obtained by solvent extraction of black pepper. Has the full flavor, odor, and pungent principle of the spice. Optical rotation –1 to –23°; refractive index 1.4750–1.4880; sp. gr. 0.860–0.884; contains 15–20% volatile oil and 35–55% piperine. 1 kg (obtained from 8-kg black pepper) can replace 25 kg of spice

pepperone rosso Crushed, hot, red pepper

pepperoni 1) An Italian sausage made of medium-chopped dried pork and beef; the predominant spice is Italian red pepper; it is dried but not smoked. 2) A smoked or unsmoked, uncooked, dried or semidried American sausage made from heavily seasoned, medium to coarsely chopped beef and pork (beef 55% max.) that is fermented and stuffed into pork or artificial casings; usually small diameter (15–50 mm) and/or links, but sometimes in large diameter casing; must be treated for destruction of trichinae; moisture-to-protein ratio 1.5:1

Types:

Canned—1.5 in. diameter in 3.5 pound cans

Leoni—2.5 in. diameter; artificial casings

Rosa—double-linked; 11 in. long; 7 oz, fully dried

Sliced vacuum packaged

Vacuum packed chunks—6 oz

Vacuum packed small double link—natural casing

Composition: moisture 27%; protein 21%; fat 44%; carbohydrate 2.8%; ash 5.2%; sodium 122 mg/slice (6 g)

See Part 2: Sausage, Types

pepper, pink 1) Poivre rose; peppercorns are harvested when they turn red and are bottled in brine and vinegar. 2) Spice of South American pepper tree (*Schinus molle* L.)

pepperpot (Philadelphia pepperpot) 1) A highly spiced stew made with cassareep (boiling bitter cassava), fish or meat, seasoning, and vegetables. 2) A highly spiced stew made with dumplings, meat and tripe, seasoning, and vegetables

pepperpot, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	80.6	90.1
Protein (%)	5.2	2.6
Fat (%)	3.8	1.9
Carbohydrate (%)	7.7	3.9
Fiber (%)	0.4	0.2
Ash (%)	2.7	1.4

pepperpot soup A rich soup made from beef broth, honeycomb tripe, macaroni, potatoes, and seasoning

pepper sauce Hot peppers packed in salt and vinegar brine; the hot brine is used to flavor meat, soup, etc.

pepper steak Fresh, ground, black pepper is added to beefsteak prior to cooking; baked spicy beef chuck

pepper, sweet

1 large pepper = 0.75 cups, coarsely chopped

pepper water Hotly spiced water served with rice

pepper, white A form of *Piper nigrum* where the mesocarp is removed from the mature berry; used as a spice See **pepper (*Piper nigrum*)**

pepper wine A condiment made from very hot red peppers and sherry wine

PEPS See **Pesticide Policy Statement**

pepsin An enzyme contained in the gastric juices that acts upon proteins; it is secreted in the inactive form pepsinogen (activated by acid); its optimum pH is 1.5–2.5; it can be extracted from the pyloric end of a pig's stomach. Used as a ferment in making cheese; capable of hydrolyzing large proteins into smaller polypeptides, but does not break them down into amino acids; digests between 3,000 and 3,500 times its weight of coagulated egg albumen; minimum activity 40°F; optimum activity 130°F; maximum activity 160–170°F. Used in food as a proteolytic enzyme

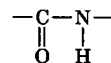
Storage: tight container in a cool place

See Part 2: pH Values of Biological Materials

pepsinogen The inactive form of pepsin and the form in which it is secreted; it is converted to the active form by hydrochloric acid and pepsin itself

peptic Refers to either digestion or pepsin

peptide Combinations of two or more amino acids joined by a



linkage to form a protein See also **protein**

peptizing The ability of some substances to attack, break down, and disperse a protein; the act of forming colloidal solutions from soils, which may be only partly soluble

peptone A polypeptide of low molecular weight that is water-soluble, is not coagulated by heat, and is not precipitated by saturated ammonium sulfate

peptone colloid medium See Part 2: Microorganism, Media

peptonization Enzymatic hydrolysis of protein into peptones

peptonized milk See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

PER See **protein efficiency ratio**

per- A prefix meaning through

pera A small, provolone-type cheese made from skimmed cow's milk and containing candied fruit

perail A soft, white cheese made from sheep's milk and cured in straw

per capita disappearance See food supply data

percent Parts per hundred; grams per 100 grams; pounds per 100 pounds

percentage dilution problems (approximate results) 1) Dilute with water

Subtract percentage desired from percentage of original; this will give the portion of water that must be added to the portion (same as the desired %) of original

Example: have 95% alcohol and want 35% alcohol ($95 - 35 = 60$)

Solution: 60 parts water to 35 parts 95% alcohol = 95 parts of 35% alcohol

2) Dilute with lower percentage

Subtract percentage wanted from percentage of original (higher); this equals the parts of lower percentage to be added

Next subtract lower percentage from percentage wanted; this equals parts of higher percentage to be added

Example: Make 35% from 95% and 20%:

$$\left. \begin{array}{l} 95 - 35 = 60 \text{ parts of} \\ \quad \quad \quad 20\% \text{ to add} \\ 35 - 20 = 15 \text{ parts of} \\ \quad \quad \quad 95\% \text{ to add} \end{array} \right\} \text{ to give 75 parts of 35\%}$$

percent defective The percentage of a lot that is defective

percent pump The percentage increase in weight above green weight caused by adding pickle, e.g., 10% pump (10% pickle added to green weight) = after pump weight = 110% of green weight

perch (darter; lake perch; ringed perch; yellow perch) A small (often 9 in., $\frac{1}{2}$ pound; maximum 4.5 pounds), light meat, light to moderate flavor, freshwater or ocean-type fin fish of the bass family. The name is also sometimes used for other related fresh and saltwater fish

Europe, Asia—*Perca fluviatilis*

Golden (Australia)—*Plectroplites ambiguus*

Japan—*Lateolabrax japonicus*

Ocean—*Sabastes marinus* See **redfish**

White—*Morone (Roccus) americana*

Yellow (North America)—*Perca flavescens*

Composition: protein 18%; fat 1.1–1.2%

See also **rod**

See Part 2: Fish and Shellfish Composition; Fish, Storage; Frozen Food Storage; Minerals, Food

perchloric acid (HClO_4) A hygroscopic liquid; strong oxidizing agent; use care in handling

See Part 2: Concentration of Commercial Strengths of Acids and Bases

perch, ocean (Pacific snapper; redfish; rosefish) A saltwater fish

Composition: protein 18%; fat 0.7–1.2%

perelada A white, sparkling wine

perennial A plant with a life span of more than two years (lives more than 3 years); plants live from year to year without reseeding; these plants flower and produce a crop each year

perennial canker A fungus that produces an oval to linear canker whose margin is surrounded by callus tissue often with gum associated; found on apricot, cherry, nectarine, peach, and plum trees

Control: keep trees healthy and vigorous

perennial sow thistle (*Sonchus arvensis*) A weed

perforation The reaction between product and tinplate of a can at a localized point causing the can to leak

performance bond A bond executed in connection with a contract that secures the performance and fulfillment of all terms

perfringens See Part 2: Bacterial Foodborne Illnesses

peri- A prefix meaning around

pericarp The outer layer of grain next to the husk; major part of bran

See Part 2: Wheat Grain; Wheat Kernel; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

perichondrium The connective tissue covering of cartilage

perigueux sauce A half glaze, brown sauce with truffles

perilla oil A yellow, edible drying oil obtained from a Japanese plant seed

See Part 2: Essential Oils; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Unsaponifiable Matter

perimysium Connective tissue enclosing bundles (fasciculus) of a dozen or more primary muscle fibers or fascicule. It is composed of both collagen and elastic fibers and the endomysial sheath of peripherally located cells as the fasciculi merge imperceptibly with the coarser perimysium

periodical cicadas The adult insect is black, with red eyes, reddish brown legs, and orange wing veins except for a black "W" pattern on the lower edge; nymphs are white, pale beige, or light yellow and resemble small crayfish. The adult females damage twigs and limbs (damaged limbs appear rough and break easily) where eggs are laid; the nymphs feed on roots and weaken the tree

periodic ophthalmia See **moon blindness**

periodic ordering Orders are placed at regular intervals for amounts needed to bring stock up to desired levels

Periodic Table A classification of the chemical elements devised by the Russian chemist Mendeleef in 1869, in which the elements are listed in order of increasing atomic weight. Thus a recurring similarity of properties (periodicity) is revealed, which depends on the atomic number of the element. The table contains seven horizontal divisions, or periods, and nine major vertical divisions (groups).

See Part 2: Elements

periosteum The external connective tissue covering of a bone

peripheral See **superficial**

peripheral fat The fat found under the skin; more unsaturated than deep fat

perishable Subject or liable to decay or spoilage

peristalsis Waves of contractions that move food through the alimentary tract

peritoneum The membrane lining the abdominal cavity

periwinkle 1) Small, edible, sea snail (winkle; *Littorina littorea*); univalve, small, mollusk. See **winkle**
2) An astringent herb (bright eyes; little pinkie; purity; twinkles)

perk A perquisite; a gratuity or tip

perkarnaya A sourdough bread usually made from rye flour

perle A general term for carbonated, grape juice wine

perlite Small white or gray, almost feathery volcanic rock; used to improve soil drainage

permanent legislation The laws upon which many agricultural programs are based

permeable Able to be traversed or penetrated

permease An enzyme that transports a nutrient through a cell membrane

permutations The different orders in which objects can be arranged

$$P_r^n = n(n-1)(n-2)(n-3)(n-4) \cdots (n-r+1)$$

P = no. of permutations

n = total number of objects

r = no. taken at a time

Example: Letters X, Y, and Z can be arranged in how many orders, using two letters at a time?

$$n = 3 \quad P = 3 \cdot 2 = 6 \quad r = 2$$

$$XY, XZ, YX, YZ, ZX, ZY$$

See also **combinations**

Permutit Proprietary name for a group of ion-exchange resins used to soften water See also **hardness (water)**

pernicious Serious

pernod A yellow (turns cloudy with water), aniseed-flavored, alcoholic, herb liqueur

peroxide A compound containing an —O—O— group in which the oxygen atoms are univalent and in a negative oxidation state, e.g., hydrogen peroxide H—O—O—H. Peroxides are strong oxidizing agents

See Part 2: Antioxidant Activity

peroxide number (PER No.) A measure of the extent to which a fat or oil has reacted with oxygen

peroxide value analysis (P.V.) An indication of oxidation that has taken place by measuring the substances in fat that will oxidize potassium iodide and is expressed as the milliequivalents of peroxide per kilogram of fat; it is determined by adding saturated potassium iodide to a solution of fat, chloroform, glacial acetic acid, and hydrochloric acid; the liberated

iodide is titrated with a standardized sodium thiosulfate solution; during oxidation, the peroxide value increases, reaches a peak and then decreases

perpetual spinach See **beet, silver**

Perrier A natural mineral water with natural carbonation that is bottled in southern France

Mineral content	ppm
Ca ⁺⁺	140.2
Cl ⁻	30.9
HCO ₃ ⁻	347.7
K ⁺	0.6
Mg ⁺⁺	3.5
Na ⁺	14.0
NO ₂ ⁻	0.0
SO ₄ ⁻	51.4

See **water, mineral**

perry Pear juice; still or sparkling wine fermented from pears (*Pyrus*); rich in tannin; like cider

persian melon A round, 5–10 pound melon with a flat netted green rind and thick, fine-grained, pink to orange flesh

persille A blue cheese made from cow's or goat's milk and matured in caves

persimmon (black sapota; date plum; Virginia date plum) Origin eastern and southeastern Asia. A date plum that is round and smooth skinned. As it ripens it changes from yellow to red and its tannin content is reduced and flavor develops. Very astringent (tannin) when immature or green (some wild varieties never lose their astringency), and only loses its astringent when it is ripe and wrinkled. May be eaten raw or dried (often sun dried)

Species:

American (Virginian date; *D. Virginiana* L.)—fruit is smaller than Japanese and dark red to maroon in color

Variety	Fruit	Pollination
Ozark	2 in.; orange with red blush	Need at least 2 trees
Tanenashi	Seedless; 2 in.	Self-pollinating

Japanese (kaki plum; *Diospyros kaki* L.)—deciduous tree producing a 2–3 in. diameter, red fruit that looks like a tomato; it is eaten fresh, cooked, and candied.

Varieties:

Fuyu—nonastringent before ripe

Hachiya—stringent until ripe

Tame nashi—stringent until ripe

Mexican or Central American or southern Florida (*D. digyna*)—black sapote; dark brown pulp

Composition: moisture 64–78%; protein 0.8%; fat 0.4%; carbohydrate 20–34%; ash 1%; pH 5.4–5.8

Ripen: room temperature

Storage: 30°F; 85–90% relative humidity; can be frozen whole or pureed

See Part 2: Fruit Composition; Fruit Storage; Minerals, Food

562 perspiration

perspiration Excretion of moisture or sweat from skin pores

pertsovka A pepper-flavored, brown vodka

peruvian apple See **tomato**

Peruvian custard apple See **custard apple**

pescara See **sweet sausage, pescara**

pesticide Any substance used to kill pests; includes fungicides, herbicides, insecticides, and rodenticides; some types are toxic to man See **Federal Insecticide, Fungicide, and Rodenticide Act**

Pesticide Policy Statement (PEPS) See **Environmental Protection Agency**

petacones A hard, cheddar-type cheese

petal One of the leaves of the corolla of a flower
See **Part 2: Flower, Perfect**

pet de nonne A rich dessert made from egg yolk batter that is fried in deep fat and sprinkled with sugar before serving

petechia Small, red (sometimes blue or yellow) spots caused by diffusion of blood or hemorrhaging in muscle tissue

petillant A general term for carbonated, grape juice wine See **crackling**

petit Small or new

petit bessay A semisoft, medium flavored, 200-g cheese

petite butter steak A steak cut from the chuck

petite narmite A French soup garnished with beef marrow, small cubes of toast, and Swiss cheese

petite sirah A California, burgundy-type, red, table wine

petit four A small, decorated, tea cake

petitgrain oil A steam-distilled, brownish yellow, bittersweet, essential oil from the leaves of the bitter orange tree (Paraguay); used in flavoring, perfumery, etc.
See **Part 2: Essential Oils**

petitgrain oil, Paraguay A volatile oil obtained by steam distillation of the leaves of the bitter orange tree (*Citrus aurantium* L.); used as a bittersweet, florallike flavoring agent in food; sp. gr. 0.878–0.890
Storage: full, tight, glass container in a cool, dark place

petit gruyere A soft, rich, yellow, nutty-flavored Danish cheese

petit lisieux A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

petit pois Small-seeded peas that have a good flavor when young and fresh

petit sale Pickled pork

petits fours Many kinds of small, fancy cakes and cookies

petit suisse A soft, creamy, nonsalted cheese made from whole milk with fresh cream added; a cylindrical-shaped French cheese
Sizes:
Demi—small
Gros—large
See **Part 2: Cheese, Vitamin Content; Milk and Cheese Composition**

peto (*Acanthocybium solandri*) A food fish

Petragnani medium See **Part 2: Microorganism, Media**

petrale sole (*Eopsetta jordani*) A white meat, very light delicately flavored, food finfish See **sole**

petri dish Two shallow dishes (bottom and cover) used for growing bacterial cultures

petrochemical A chemical derived from petroleum or natural gas, except those used for fuel; thus benzene and ethylene oxide are petrochemicals, but gasoline and fuel oil are not

petrolatum Rock oil; obtained by boring into oil-bearing rock; a white to yellow mixture of semisolid hydrocarbons obtained from petroleum; melting point 38–60°C; sp. gr. 0.814–0.880 at 60°C. Rock oil when heated yields the following items:

Liquids	Distilling temperature (°F)
Naphtha	40–70
Gasoline	70–90
Benzine	90–150
Kerosene	150–280
Lubricating oil	280–400
Vaseline, paraffin, coal tar residue	

Used in food as a defoaming agent or as a protective coating, lubricant, or release agent.

Storage: tight container

petroleum benzin See **naphtha**

petroleum ether See **naphtha**

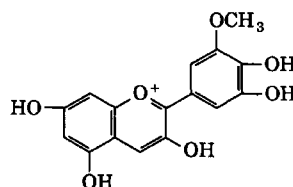
petroselinic acid See **Part 2: Unsaturated Fatty Acids**

petsai [Chih(i)li; Chinese cabbage; pai-tsai; pak-choi; wong bok; *Brassica pekinensis*] Autumn and winter vegetable used for greens; a cabbage that looks like large romaine lettuce with light-colored leaves and crisp stalks See **Chinese cabbage**
See **Part 2: Vegetables, Classification; Vegetable Composition, Part I; Vegetable Storage**

pette A Swiss cheese made from cow's milk

pettijohns A breakfast food made from whole wheat

petunidin One of the anthocyanidins responsible for the red color in fruits and vegetables



peujeum A cassava tape

peujeum ketan A sweet, slightly alcoholic, glutinous rice

peyem A cassava tape

peynir A panir-type cheese made from cow's or sheep's milk that is sometimes matured

pfeffernuesse A peppernut cookie

pfefferwurst A cooked sausage that contains whole peppercorns

PFF (protein fat free)

$$\text{PFF} = \frac{\% \text{ protein}}{100 - \% \text{ fat}} \times 100$$

pfister An emmenthaler-type cheese made in Switzerland

pH Degree of acidity or alkalinity. It is the negative logarithm (base 10) of the H ion concentration; the range is from 1–14, with 7 being neutral; pH values greater than 7 indicate an alkaline solution, whereas values less than 7 indicate an acid solution.

$$\text{pH} = \log_{10} \frac{1}{[\text{H}^+]} = -\log_{(10)} [\text{H}^+]$$

Fresh meat 5.3–6.0; normal human blood 7.3–7.5; pure water 7.0. pH affects food preservation, e.g.,

Fermented products such as sauerkraut, pickles, and vinegar

Soft drinks (phosphoric acid)

Salad dressing

Soil pH	Name	Treatment
Below 4.5	Extremely acid	Should have limestone added for most plant growth
4.5–5.0	Very strongly acid	
5.1–5.5	Strongly acid	
5.6–6.0	Moderately acid	
6.1–6.5	Slightly acid	General plant growth
6.6–6.9	Very slightly acid	
7.0	Neutral	
7.1–7.5	Very mildly alkaline	
7.6–8.0	Mildly alkaline	Aluminum sulfate, iron sulfate, powdered sulfur will make soil more acid

See Part 2: Egg Specifications; Indicators; Lemon Juice Composition; Lime Juice Composition; Milk, Physical Properties; pH and Availability of Plant Nutrients; pH and Acid Base; pH, Buffer Solutions; pH, Post Mortem; pH, Standard Solutions; pH, Universal Indicators; pH Values of Biological Materials; Water Drinking Standards

phaac A dark, salty, fermented, fish paste with glutinous rice

-phag- An affix that means eat

phagocyte A cell that ingests microorganisms or other cells or substances or foreign particles

phalangeal bone Foot bones just above the toes
See Part 2: Bone

phak-dong Pickled vegetables

pharmaceutical Pertaining to drugs or medicine

pharmacology The science of drugs and reactions of drugs

phase feeding Varying the diet to adjust for factors that may influence productivity

pH control agents Compounds that control change or maintain acidity and alkalinity in food and affect the stability, texture, and taste

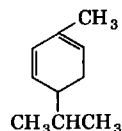
pheasant A game bird of species *Phasianus colchicus* or similar type of birds; usually long-tailed; some of these birds are also raised in captivity

1 dressed = 1–2 pounds

Composition (flesh and skin, raw): moisture 67.77%; protein 22.70%; fat 9.29%; ash 1.27%; total carbohydrates 0.0%

See Part 2: Poultry Dressing Percentage; Poultry Yield

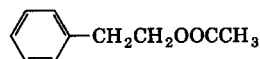
phellandrene



Used as a herb-mint-like flavoring agent in food; sp. gr. 0.840–0.856

Storage: full, tight, glass container in a cool, dark place

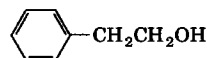
phenethyl acetate



Used as a floral-like flavoring agent in food; sp. gr. 1.030–1.035

Storage: full, tight, glass container in a cool, dark place

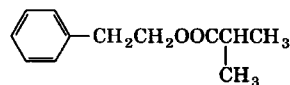
phenethyl alcohol



Used as a roselike flavoring agent in food; sp. gr. 1.016–1.020

Storage: full, tight, glass container in a cool, dark place

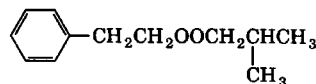
phenethyl isobutyrate



Used as a fruit-rose-like flavoring agent in food; sp. gr. 0.986–0.990

Storage: full, tight, glass container in a cool, dark place

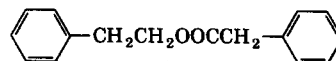
phenethyl isovalerate



Used as a fruity-rose-like flavoring agent in food; sp. gr. 0.972–0.976

Storage: full, tight, glass container in a cool, dark place

phenethyl phenylacetate

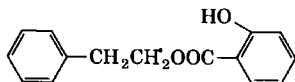


Used as a rose-hyacinth-like flavoring agent in food; sp. gr. 1.080–1.082

Storage: full, tight, glass container in a cool, dark place

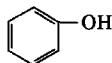
564 phenethyl silicylate

phenethyl silicylate



Used as a balsam-rose-like flavoring agent in food;
Storage: tight container

phenol (carbolic acid) An organic compound in which one of the hydrogen atoms in the aromatic ring has been replaced by a hydroxyl group in the ortho position.



A disinfectant; 1:100 kills most vegetative bacteria in 20 min; 1:1000 is an effective bacteriostat; 5% solution kills spores in hot solution in 24 hours

Advantages:

- Not corrosive
- Effective in presence of organic material
- Effective against all vegetative bacteria

Disadvantages

- Poisonous
- Odor absorbed by foods
- Loses efficiency when temperature is lowered
- Not effective against viruses
- 7% solubility in water
- Phenol oil droplet will form on surfaces of cold solution and these are dangerous to tissue

See Part 2: Water Drinking Standards

phenol coefficient A number comparing the dilution of a disinfectant with the dilution of phenol necessary to kill a test organism (e.g., typhoid fever germ) under specific conditions

phenolic can coating (phenol-formaldehyde)

Has good impermeability and chemical resistance but may give off flavor; does not require zinc oxide; not softened by animal fat

phenolic coating The resin portion derived from phenols or cresols

phenolphthalein ($C_{20}H_{14}O_4$) An indicator used when titrating weak acids; its pH range is 8-10 (midpoint 8.3); colorless in an acid solution; pink to red at pH 9 and above; 0.2 g/100 ml alcohol

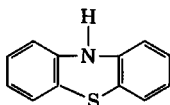
phenol red (phenolsulfonphthalein) ($C_{19}H_{14}O_5S$) A pH indicator; pH range 6.4-8.0. Yellow in acid and red in basic direction. 0.02-0.05% in ethyl alcohol solution

phenol red broth A medium for growth of *Bacillus cereus*

See Part 2: Microorganism, Media

phenomenal berry A fruit similar to loganberry

phenothiazine An anthelmintic for livestock



A drug used as a wormer; used to reduce flies, control internal parasites, and control strongyles

Recommended treatment for internal parasites: 1 part to 12 parts with salt (continuous administration)

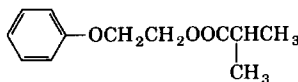
For sheep—15 to 25 g (approx $\frac{3}{5}$ -1 oz)

For cattle—10 g/100 lb body weight (maximum 60 g); must be done when cattle are dry (causes red discoloration of milk)

For swine—12-30 g

phenotype The external features that an animal possesses; includes physical appearance and performance characteristics

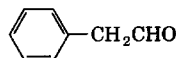
phenoxyethyl isobutyrate



Used as a honey-rose-like flavoring agent in food; sp. gr. 1.044-1.049

Storage: full, tight, glass container in a cool, dark place

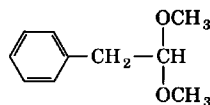
phenylacetaldehyde



Used as a hyacinth-like flavoring agent in food; sp. gr. 1.024-1.036

Storage: full, tight, glass container in a cool, dark place

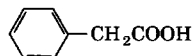
phenylacetaldehyde dimethyl acetal



Used as a flavoring agent in food; sp. gr. 1.000-1.007

Storage: full, tight, glass container in a cool, dark place

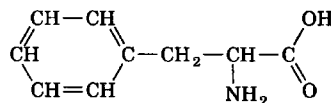
phenylacetic acid



Used as a geranium-rose-like flavoring agent in food; melting point 76-78°C

Storage: full, tight, glass container

phenylalanine An aromatic amino acid



Used as a nutrient or dietary supplement

Storage: tight container in a dark place

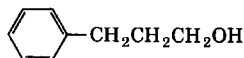
See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Microorganism, Media; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

phenylalanine agar See Part 2: Microorganism, Media

phenylethanol See Part 2: Microorganism, Media

phenyl group An organic group based on the benzene ring, in which one or more substituent atoms or groups have replaced H atoms; thus a phenyl group may be C_6H_5- , $-C_6H_4-$, etc.

3-phenyl-1-propanol

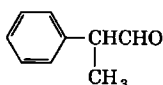


Used as a hyacinth-mignonette-like flavoring agent in food; sp. gr. 0.998–1.003

Storage: full, tight, glass container in a cool, dark place

phenylpropanolamine hydrochlorine (PPA) An appetite suppressant ingredient in many nonprescription diet pills

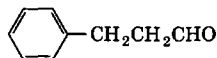
2-phenylpropionaldehyde



Used as a floral-like flavoring agent in food; sp. gr. 0.997–1.007

Storage: full, tight, container in a cool, dark place

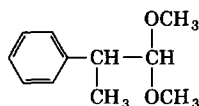
3-phenylpropionaldehyde



Used as a floral-like flavoring agent in food; sp. gr. 1.010–1.020

Storage: full, tight, glass container in a cool, dark place

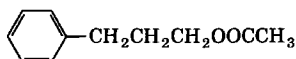
2-phenylpropionaldehyde dimethyl



Used as a mushroom-like flavoring agent in food; sp. gr. 0.988–0.994

Storage: full, tight, glass container in a cool, dark place

3-phenylpropyl acetate



Used as a spice-floral-like flavoring agent in food; sp. gr. 1.012–1.016

Storage: full, tight, glass container in a cool, dark place

-pher- An affix that means bear or support

pheromones Chemicals produced by insects to communicate by odor with insects of the same species

phi (Φ, φ) Greek letter with an English equivalent of ph

-phil- An affix that means like or have affinity for

Philadelphia A proprietary name for a foil-wrapped, cream cheese made from cow's milk

Philadelphia ice cream A sweetened and flavored, coffee ice cream (18–20% fat) often with nuts and/or fruit and/or chocolate

Philippine spinach (*Talinum triangulare*)

Purslane used like spinach

Phillipps A variety of clingstone peach

pH meter An instrument to measure electric potential between electrodes and convert it into pH values

Phoma A type of mold

See Part 2: Mold, Food

phonlami dong Pickled fruit

phool wari Dried, yellow rice, wheat, or maize balls that are deep fat-fried

-phor- An affix that means bear or support

phosphate A salt or ester of phosphoric acid; used in meat industry to increase water-holding capacity or to speed cured color development; 0.5% permitted in finished products such as cured hams and shoulders and canned chopped ham and sausage (comminuted) products. Used as a pH control agent, sequestrant, emulsifier, and texture modifier

Types:

Disodium phosphate (sodium phosphate dibasic)— Na_2HPO_4

Monosodium phosphate (sodium phosphate monobasic)— NaH_2PO_4

Sodium acid pyrophosphate— $Na_2H_2P_2O_7$

Sodium hexmetaphosphate (Grahams salt)— $(NaPO_3)_6$

Sodium pyrophosphate (tetrasodium pyrophosphate)— $Na_4P_2O_7$

Sodium tripolyphosphate— $Na_5P_3O_{10}$

No more than 5% of such phosphates may be in pickle; 50 lb/100 gal pickle (10% pump); canned chopped hams, 8 oz/100 lb of fresh uncured ham

Composition	Rock, defluorinated	Rock, raw
Dry matter (%)	100	100
Ca (%)	32	36
P (%)	18	15
Fe (%)	0.6	0.7
F (%)	0.2	3.2

See **bone phosphate; fertilizer; superphosphate**

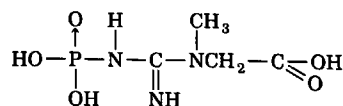
See Part 2: Fertilizer Materials; Minerals (Trace), Limits; Phosphate; pH, Post Mortem

phosphate rock A fertilizer material composed largely of calcium phosphate; neutral pH; phosphorus content varies and the phosphorus is released slowly; fine grinding will speed up its solubility; 33% total P_2O_5 ; occurs widely in U.S., especially Florida

phosphatide See **phospholipid**

phosphatidylinositol A phospholipid found in food

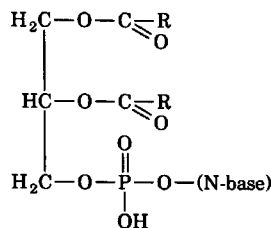
phosphocreatine (creatine phosphate; PC)



An energy-rich compound that is necessary for muscular contraction; a high-energy phosphate compound found in muscle that can rephosphorylate adenylic acid after muscle contraction

566 phospholipid (phosphatide)

phospholipid (phosphatide) Fatlike compounds that also contain phosphorus and nitrogen; when subjected to hydrolysis phospholipids yield glycerol, fatty acids, phosphoric acid, and a nitrogenous base; two of the best known examples are lecithin and cephalin.



See Part 2: Egg Products, Nutritive Value

phosphoprotein A phosphoric acid ester linked to a protein through a hydroxy amino acid; e.g., casein, vitellin

phosphoric acid (orthophosphoric acid) (H_3PO_4) A colorless, odorless, inorganic acid derived from phosphate rock by treatment with hydrochloric acid or sulfuric acid; mol. wt. 98; equivalent weight 32.67; melting point 41°C

% by wt	Commercial strength		
	sp. gr.	M.	Normality
85	1.689	14.7	41.1
87	1.711	15.2	

230 ml of 85% H_3PO_4 to dilute to 10 liters, approx. normality 1.00

Uses: an acid or flavoring or sequestrant agent in food; an acidulant and flavor in soft drinks and in fertilizers

85% acid is 55–60% as tart as anhydrous citric acid

Types:

- metaphosphoric acid (HPO_3)
- orthophosphoric acid (H_3PO_4)
- pyrophosphoric acid ($\text{H}_4\text{P}_2\text{O}_7$)

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Fertilizer Materials; Normal Solutions; Reagents, Normal Solutions

phosphorus (P) A nonmetallic element; at. no. 15; at. wt. 30.975; Group V-A of Periodic Table; oxidation states +3, +5, -3; electron configuration 2-8-5

orbit K L M

Body function: in bones (as calcium phosphate, Ca_3PO_4); buffer action, lecithins, proteins, and nucleic acids.

High P content—cereals, legumes, eggs, fish, meat, and milk products

Low P content—fruit

Required by all organisms, usually as a salt of phosphoric acid (H_3PO_4); a deficiency in plants causes slow growth and green-purple foliage

$$\% \text{P} = \% \text{P}_2\text{O}_5 \times 0.4367$$

See Part 2: Beans, Peas, and Nuts; Beef Percentages of Daily Recommended Allowances; Cereal Fortification; Cereals, Vitamin and Mineral Content; Composition of Food; Concentrated and Dried Milk Products; Creams, Butter and Frozen Desserts; Dairy Products, Composition II; Egg Composition, II; Egg Products, Nutritive Value; Fat and Oils, Composition I; Fish and Shellfish Composition I; Fluid and Fermented Milks, Composition; Food, Composition; Fruit Composition, Part I; Grain Analysis; Grain Products Composition; Lamb Percentages of Daily Recommended Allowances; Lemon Juice Composition; Lime Juice Composition; Macaroni and Noodles Composition; Manure Analysis; Meat Composition; Meat, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Nutrients in Crops; Olives and Pickles, Composition; pH and Availability of Plant Nutrients; Phosphorus, Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Recommended Daily Dietary Allowance; Soup Composition; Sugars and Sweets Composition; Tomato and Tomato Products, Composition; Variety Meat Percentage of Daily Recommended Allowances; Vegetable Composition, Part I; Wastes, Agricultural and Industrial; Wheat, Minerals; Wheat Products Composition

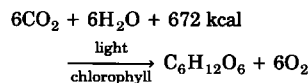
phosphorylation Introduction of phosphate into an organic compound

-phot- An affix that means light

photon The massless unit of electromagnetic energy moving at the speed of light

photoperiod The length of a day

photosynthesis The conversion of radiant energy to chemical energy by plants. The generally accepted reaction is



The chlorophyll acts as catalyst. Virtually all atmospheric oxygen is due to this reaction. The stored energy is released as heat on combustion

phototrophic Plants that use radiant energy (photosynthesis) as a source of energy

phul-varhia Dried yellow rice, wheat, or maize balls that are deep fat-fried

phagocytic cell A cell that engulfs and kills pathogens

phycocolloid A hydrophilic colloidal substance derived from seaweed, for example, carrageenan, algin
See also polysaccharide

-phyll A suffix meaning leaf

phyllo (fillo) Parchment-thin pastry made of flour and water

1 pound, phyllo dough = 24 sheets

phyllosticta leaf blight (*Phyllosticta batatas*) A sweet potato fungus that produces brown spots on the upper side of the leaf

phylloxera See grape phylloxera; pecan phylloxera

phylo A thin, flour and water pastry

physalis (groundcherry; husk tomato) *See* gooseberry

See Part 2: Planting Density

Physalospora A type of mold

See Part 2: Mold, Food

physically induced swell A bulge in cans caused by overfilling at low temperature

physiological Functions of the body and organs; processes that occur in living things

physiological maturity The stage of development when a plant or part of a plant will continue to ontogeny even if detached

physiological requirements *See* nutritional requirements

physiological saline A salt solution with the same osmotic pressure as blood; 0.389 ± 0.008 mole of dissolved material per 1000 g of water; 0.9% sodium chloride in water; used as an isotonic solution of NaCl when dealing with mammals

-phyt- An affix that means plant

phytic acid ($C_6H_6[OPO(OH)_2]_6$) Naturally occurring in corn, cereal grains, and soil; a complexing agent for metals

phytonadione (K_1) *See* Part 2: Vitamins

Phytophthora A type of mold

See Part 2: Mold, Food

phytosterol Sterols made by plants

phytotoxicity Poisonous to plants

pi (Π , π) Greek letter with an English equivalent of p; in math $\pi = 3.14159$ (ratio of circumference to diameter of a circle)

See Part 2: Constants, Fundamental

PI-3 Parainfluenza-3

pica A depraved appetite for unnatural items; pathological desire to eat nonfood substances; desire for unnatural food, such as chalk, clay, etc., by those affected with chlorosis

picarone A cassava-flour doughnut

piccalilli A relish made from brown sugar, chopped cabbage, chopped onions, green pepper, green tomatoes, salt, spice, sweet red pepper, and vinegar

pickerel A lean, freshwater fish of the pike family; young pike (*Esox niger*); maximum size is usually 12–24 inches

See Part 2: Minerals, Food

pickle 1) A brine or vinegar (4–6% acetic acid) solution; salted and fermented fruit, vegetables, fish, or meat; in relation to meat the common ingredients are salt, sugar, sodium nitrate, and sodium nitrite (not acid or vinegar). 2) A relish made from vegetables (small cucumbers) or fruits. Vegetables may be pickled by treatment with salt, vinegar, or both. Fruits may be pickled with vinegar, strong mustard, sugar, and spices and used as a relish. Dill pickles and sauerkraut may be preserved by lactic acid formed during fermentation (*Leuconostoc mesenteroides*;

Pediococcus cerevisiae; *Lactobacillus plantarum*). Maximum acid formed 0.6–1.5%

Mixed sliced vegetables—pickle or relish

Sliced cucumbers—bread and butter pickles

Small whole cucumbers—pickles

Types:

Brined—Soaked in saltwater brine; fermentation produces lactic acid

Brined, unfermented type—high salt level brine; desalted before use

Fruit—whole or sliced fruit is simmered in a spicy, sweet-sour syrup

Relish—chopped, seasoned, and pickled vegetables and fruit

Made from beets; cabbage, red; cabbage, white; cauliflower; cucumbers; eggs; gherkins; melon rinds; mixed vegetables; olives; onions; roots and walnuts

50 pounds (lb), of cabbage

= 15 quarts (qt) sauerkraut

20 lb ($\frac{1}{2}$ bushel), 3–6-in. cucumbers

= 10 qt, brined dill pickles

= 7 qt, fresh pack dill pickles (7–10 cucumbers per qt)

5 qt (7 lb), $1\frac{1}{2}$ –3-in. cucumbers

= 7 pints (pt), sweet gherkins

4 qt (6 lb), cucumber, medium slice

= 7 pt, crosscut pickle slices

5 medium onions, 3 medium peppers, 6 lb, tomatoes = 5 pt, chili sauce

3 qt (3 medium head), cauliflower florets

= 5 pt, pickled cauliflower

3 qt (7 lb without tops), sliced beets

= 6 pt, pickled beets

3 lb, whole okra = 6 pt, pickled okra

8 lb (4–5 qt), watermelon rind, unpared

= 5 pt, watermelon pickle

1 cup, bread and butter = 6 ounces (oz)

1 cup, chopped pickle = 5.2 oz

$4 \times 1\frac{3}{4}$ in. = 4.8 oz

$3 \times 1\frac{1}{4}$ in. = 2.3 oz

$2\frac{3}{4}$ in. = 0.8 oz

$2\frac{1}{2} \times \frac{3}{4}$ in. = 0.4–0.5 oz

2 in. = 9 g

Composition	Dill	Sour	Sweet
pH	2.6–3.8	3.0–3.5	2.5–3.0
Moisture (%)	93		61
Protein (%)	Trace		Trace
Fat (%)	Trace		Trace
Carbohydrate (%)	1.5		33
Sodium (mg/medium)	928		879

3) In cheese the addition of salt and or ageing in a brine. 4) To remove oxide on metal by soaking in an acid. *See* dill pickles; fresh packed pickles; pickle, bread and butter; sour pickles; sweet pickles

See Part 2: Calories, Daily Recommendations; Food, Composition; Meat Curing Ingredients; Olives and Pickles, Composition; Vegetables, Canning Dates

pickle and pimiento loaf A cooked meat specialty made from finely chopped, lean pork and beef with sweet pickles and pimientos added

Composition: moisture 57%; protein 11.5%; fat 21%; carbohydrate 5.9%; ash 4.4%

See Part 2: Sausage Identification

568 pickle, bread and butter

pickle, bread and butter Sliced, fresh, pasteurized, canned, slightly sweetened and spiced, fresh, cucumber pickles

Composition: sodium 101 mg/2 slices (15 g)

pickled apple Apple pickled with salt and malt extract and allowed to ferment

pickled aubergine Pickled eggplant (*Solanum melongena*)

pickled banana Banana pickled with salt and allowed to ferment

pickled calabash Pickled *Lagenaria*

pickled carrot A red, alcoholic, strong-flavored beverage made from carrot juice

pickled cauliflower Pickled *Brassica oleracea botrytis* See **cucumber pickle**

pickled egg Hard-boiled egg immersed in vinegar containing white peppercorns

pickled herrings Herring baked in vinegar and water containing onion and sugar

pickled meat Cooked, cured, meat fermented in salt, often with spices and vinegar

pickled onion Pickled, small, peeled onions (*Allium allii*) immersed in vinegar, sugar, and pickling spice

pickled pigs' feet Cooked, cured, pigs' feet fermented in salt, often with spices and vinegar. Clean pigs' feet; submerge in 75° pickle for several weeks; cook; chill and remove meat; place in hot vinegar solution of 50% vinegar, 50% water, 1 teaspoon salt/pint; seal in jars.

See Part 2: Pork Chart; Pork Cuts; Pork Cuts and Uses; Pork Yield

pickled sausage Polish, hot and Vienna sausages packed in vinegar (5% acetic acid)

pickled sweet pepper Sweet pepper pickled with salt and allowed to ferment

pickled tomato Tomato pickled with salt and allowed to ferment

pickled turnip Pickled *Brassica campestris* or *B. rapa*

pickled vegetables *Brassica* and other species preserved in salt and at a low pH

pickled walnuts Green walnuts, softened by cooking and pickled

pickle, mixed Vegetables (cut) used: cauliflower, cucumbers, green pepper, onion; sometimes also green beans and green tomatoes

Types:

Sour

Sweet

pickle products

Classification:

Brined or fermented pickle products (e.g., dilled cucumbers, sauerkraut)—cured 3 weeks

Fresh-pack or quick-process pickles (e.g., beets, cauliflower, crosscut cucumber slices, green beans, okra, sweet gherkins, whole cucumber dills)—brined several hours and combined with boiling hot vinegar, spices, and seasoning

Fruit pickles (e.g., pears, watermelon rind, whole fruit)—simmered in spicy, sweet-sour syrup

Relishes (e.g., chili sauce, corn relish, horseradish, pepper-onion, picalilli, tomato-apple chutney, tomato-pear chutney)—fruit or vegetables are chopped, seasoned, and cooked

pickle, sweet

Composition: sodium 128 mg/pickle (15 g)

pickling See **buckling**

pickling spice A mixture of many spices (varies) blended for pickling purposes. Blends often include: allspice, bay leaves, black pepper (whole), caraway, cardamom, chilies, cinnamon, cloves, coriander seed, dill seed, ginger, mace, mustard seed, red pepper or hot chilies, and white pepper (whole). Other recipes may include additional spices. Sometimes mixed with hydrogenated vegetable oil

picloram 4-amino-3,5,6-trichloropicolinic acid. An herbicide used for control of a wide range of weed and brush species; very soil persistent

picnic 1) The lower area (butt removed) of the pork shoulder; it may or may not be cured and smoked; may be bone-in or boneless. 2) Meal eaten in the open or outside of a building

See Part 2: Cooking in Liquid, Time; Meat, Servings per Pound; Pork Carcass, Retail Yield; Pork Chart; Pork, Cooking; Pork, Cooking Methods; Pork Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Shoulder; Pork Wholesale Cuts; Pork Yield; Roasting, Time and Temperature; Simmering Meat

picnic loaf A pork and beef specialty sausage

Composition: moisture 60.2%; protein 15%; fat 17%; carbohydrate 4.8%; ash 3.5%

picnic salami A moist, cooked, unsmoked Australian sausage made from medium chopped, heavily seasoned (garlic), beef and stuffed into artificial casings

pico- (p) A prefix for a quantity one trillion times smaller than the base unit, i.e., 1 picogram (pg) = 10^{-12} g

picodon A soft paste, mellow, smooth, sharp, French, valençay-type cheese made from goat's milk and matured in white wine

picul (pikul) A unit of weight used in Cambodia, Lao People's Democratic Republic, and Thailand

1 picul = 0.060 metric ton

As used in Brunei, Hong Kong, Macau, and Malaysia

1 picul = 0.06048 metric ton

pidan Fermented egg in which the yolk is semisolid or hard; a pickled egg; a thousand-year egg

Procedure:

Time	Solution	Temp.
10 days	20% NaCl	25°C
7-9 days	5% NaOH	
	10% NaCl	
	2% black tea	

Cover with paraffin and they will keep for several months

piddock (*Pholas dactylus*) An edible, clamlike, bivalve mollusk

pide A packet, flat bread

pie A baked dish consisting of a filling (Bavarian cream, custard, fruit, meat, pudding, etc.) and a lower or upper crust or both. Tarts or flambes or pie in a pastry dish without a crust or lid

Storage:

Cream—refrigerate after baking

Custard—refrigerate after baking

Fruit—should be refrigerated; may be reheated prior to use

10–14 tsp sugar per $\frac{1}{8}$ pie

See Part 2: Baked Products; Frozen Storage Life; Calories, Daily Recommendations; Frozen Food Storage; Grain Products Composition; Portion Size; Storage Times

piece A wine container, varies in size

1 piece = 47 to 50 gallon
= 228 liters

piecrust See **pastry pie shell**

pie filling A canned product that is already thickened, sweetened, and spiced

pien niu A hybrid cross of yak and cattle; males are sterile

pieplant See **rhubarb**

Pierce's disease A bacterial disease that attacks American, bunch grapes; spread by several species of sharpshooters or large leafhoppers; widespread throughout the southeastern states but causes obvious damage only in the Gulf states. Once a vine is infected, there is no cure

Pie Rouge See **Simmental**

pierre qui vire A muenster-type cheese made from cow's milk

pierre sur haute A blue cheese made from cow's milk

pie shell Pastry portion of a pies

	Cups of Pastry Mix for:	
	Single Crust	Double Crust
8 inch	1–1 $\frac{1}{4}$ cups	2–2 $\frac{1}{4}$ cups
9 inch	1 $\frac{1}{4}$ –1 $\frac{1}{2}$ cups	2 $\frac{1}{4}$ –2 $\frac{1}{2}$ cups
10 inch	1 $\frac{1}{2}$ –1 $\frac{3}{4}$ cups	2 $\frac{1}{2}$ –2 $\frac{3}{4}$ cups

For piecrust: $\frac{1}{8}$ in. thick with $\frac{1}{2}$ in. over edge of pan

Weight of crust:

8 inch—5 oz

9 inch—6–6.3 oz

10 inch—8 oz

See Part 2: Grain Products Composition

piesporter A fruity, white wine

pietan See **pidan**

pietrain A very muscular breed of hogs

pig (hog; swine) Young swine, 120 lb or under, either sex; *Sus scrofa* (European); *Sus vittatus* (Eastern Asiatic); monogastric; produces pork

See Part 2: Gestation Periods; Muscle and Body Weight; Swine Breeds; Swine Market Classes and Grades; Teeth Eruption

pigeon A bird of order *Columbae*; includes doves used as food. Young (less than 4 weeks) are called squab

Class:

Pigeon

Squab

1 pigeon = 1 serving

pigeon pea (alberga; Angola pea; arhar; Congo bean; red gram; tur; yellow dhal; *Cajanus cajan*) A tropical legume that has good drought resistance; the pea is cooked to produce dhal for human consumption; the pods and foliage are used for livestock feed

Pods—5–8 cm, 4–7 seeds per pod

Seed color—brown with a white spot at point of attachment

Seed shape—round with one edge flattened

Seed size—18,000 per kilogram

Composition	Dry seed	Green seed
Moisture (%)		69
Protein (%)	22	7
Fat (%)	1.5	0.6
Carbohydrate (%)	60	21
Ash (%)	3.5	1

See **cajun**

piglet Young pig

pigment A substance that absorbs radiant energy in the visible spectrum; a colorant

See Part 2: Meat Pigment

pignoli Pine cone kernels

pignolia (Indian nut; pignon nut; pine nut; pinon nut) A small ($\frac{1}{2}$ – $\frac{3}{4}$ inch), narrow, hard-shell seed of the pine tree grown in Spain and used in confections

See **pine kernel**

pig-nut (hog nut) 1) Ground chestnut. 2) Bitter nut belonging to the brown hickory tree family

pigouille A panir-type cheese made from cow's, sheep's, or goat's milk

pigs' feet, pickled See **pickled pigs' feet**

pigs' feet, tidbits (pigs' feet cutlets; pork feet cutlets) Small pieces of meat cut from the forward and upper part of the hind feet of pigs; they are cured, cooked, and canned in vinegar

pig's-foot jelly A jelly made by cooking pigs feet, hearts, tongues, and hocks in water, removing the bones, and letting the product jelly

pigs' fry Heart, lights, liver, and sweetbread

pigskin

Composition: collagen 79%; digestibility (both heated and raw) 95%

pig souse See **pig's-foot jelly**

pig's tail Sold whole including part of backbone

pigweed (*Amaranthus retroflexus* L.) 1) An annual weed sometimes used as food

Dried leaves—edible

Leaves, shoots, flowers—green vegetable

Red, white, black seeds—edible

2) Wine fermented from *Amaranthus spinosus* See **epazote; lamb's quarter**

PIK See **Payment-In-Kind**

570 pike (king pirate; *Esox lucius*)

pike (king pirate; *Esox lucius*) A large, northern, freshwater, food fish that has soft and firm, white flesh and a moist, delicate taste

Types:

Pickereel (several species)

Chain pickereel (*Esox niger*)—North America

Grass pickereel (*E. americanus*)—North America

Pike

Muska(e)llunge (great North American pike; maskinonge; *E. masquinongy*)—North America

Common name:

Northern Europe, North America (*E. lucius*)

Pickereel

Walleye

They contain many bones and under 2 pounds they are lean (0.9% fat) and tender; over 2 pounds they are tougher; they are often pickled or broiled

See Part 2: Minerals, Food

pikelet See **crumpet**

pike perch

North America—walleye

Europe and Caspian—*Lucioperca lucioperca*

Pike's peak (heel-of-round) Muscles of the hind shank; less tender and boneless beef roast from the lower round area

pik salami A dry, uncooked, Australian sausage

pikul See **picul**

pilaf Rice cooked in broth, often with meat, vegetables, herbs, and spices

pilaff See **pilau**

pilau (pilaf; pilaff; pilav; pilaw; pillau) A dish of light and fluffy rice, raisins, meat, and spices; a stew or soup See **pilaff**

pilchard (gypsy herring) A small fish related to the herring family; a fully grown sardine; a sardine is a young pilchard.

Californian, Pacific (*Sardinops caerulea*; *S. sagax*)

Chilean, Pacific (*S. sagax sagax*)

Japanese (*S. melanosticta*)

Mediterranean (*Sardina pilchardus sardina*)

Northeast Pacific [*Sardinops (Sardina) caerulea*]

Oceania (*Sardinella neopilchardus*)

Pilchard, Australia (*Sardinops neopilchardus*)

Pilchard/Sardine, Europe (*Sardina pilchardus*)

South African (*Sardinops ocellata*)

Southwest Pacific (*S. sagax sagax*)

West Africa (*S. ocellata*)

Used fresh or canned in brine, oil, or tomato sauce and labeled "chunk light sardine" or "pilchard"

See Part 2: Fats and Oils, Characteristics; Unsaturated Fatty Acids; Vitamin A, Fish; Vitamin D, Fish

pilchard sardine [*Clupea (Sardina) pilchardus pilchardus*] A western European sardine

pilgrim See **goose**

pili almond (Javanese almond) A thick-shelled, high fat content, kernel (rest of seed not edible) of a plum that may be consumed raw or roasted

pilinut A south Pacific nut usually dyed red

Composition: sodium 3 mg/4 oz (113 g)

pilot biscuit See **cracker**

pilot cracker See **hardtack**

pilot fish See **whitefish**

pilot study method A method developed in a single laboratory, resulting in statistics on method performance. It is helpful in determining the need for further testing and/or the development of official methods

pilot wafer (pilot cracker) A ship's biscuit used for thickening chowders

pilsener A light-colored, lager beverage high in hops

pimaricin An antibiotic added to food in some countries

pimenta leaf oil (pimento leaf oil) A volatile oil obtained by steam distillation of the *Pimenta officinalis* leaf. Used as a spicy flavoring agent in food; sp. gr. 1.037–1.051

Storage: full, tight, glass container in a cool, dark place

pimenta oil (allspice oil; pimento oil) A volatile oil distilled from *Pimenta officinalis* fruit. Used as an allspice-like, flavoring agent

Storage: full, tight, glass container in a cool, dark place

pimento (allspice; Jamaica pepper; pimienta; *Eugenia pimenta*; *Pimenta dioica*; *P. officinalis*) 1) Spanish paprika or pimienta; allspice; dried berries are 6.5–9.5 mm in diameter; 13 berries per gram

Composition: volatile oil 2–7%, average 4–4.5%; fatty oil 6–8%; moisture 12% max.; total ash 8.5% max.; HCl insoluble ash 1% max.; pH 4.6–5.2; crude fiber, dry weight basis 27.5% max.; extraneous matter 1% max.; nonvolatile ether extract, dry weight basis 8.5% max.

Also available:

Bottled

Canned—in a salt brine with the peel, stem core, and seed removed

Cups—hand-packed, whole in sweet pickle vinegar

2) Dried unripe berries of West Indian tree. 3) Large red and green sweet pepper See **allspice; pimienta**

See Part 2: Essential Oils; Minerals, Food

pimento berry oil A yellow to brown oil obtained by steam distillation from pimento berries

Composition: eugenol 65–89%; methyl eugenol 8–10%

pimento berry oleoresin An organic (e.g., petroleum ether) extraction of the spice; volatile oil 60–66%

pimento cheese A pasteurized, processed cheese to which pimientos (Spanish peppers) have been added

Composition: moisture 39–40%; protein 22–23%; fat 31–32%; carbohydrate 1–2%; fiber trace; ash 5–6%

See Part 2: Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

pimento leaf oil A brown–yellow liquid distilled from pimento leaves; eugenol 65–96%

pimienta

Types:

pimienta blanca—white pepper

pimienta negra—black pepper

See **paprika**

pimiento (not pimento or allspice) A capsicum (pepper) that may be green, yellow, or red; usually sold in canned form. A Spanish sweet pepper; used as a stuffing for olives and as flavoring agent in cream sauces

1 cup, canned, solids and liquid = 8.2 oz

See **capsicum**; **paprika**

See Part 2: Standards, Processed Fruit and Vegetable Products; Vegetable Composition; Vegetables, Canning Dates

pimiento cheese A neufchâtel-cheese mixed with finely ground, sweet, red peppers

pimiento cream cheese Cream cheese mixed with chopped pimiento

Pimms No. 1 A brand of gin flavored with cucumber

pimpeltjens A lemon-flavored liqueur

piña A sweet drink made from pineapples See **pineapple**

pinacbet See **pinakbet**

piña colada An alcoholic beverage made from 1½ oz (1 jigger) rum, 1 oz cream of coconut, 2 oz pineapple juice, ½ cup crushed ice; shake, pour into glass filled with ice cubes, and add cherry

pinakbet (ginisang; pinacbet) A stew of bitter melon, eggplant, fermented seafood, meat, okra, onions, and tomato

pinapaiton Tripe bile

piñatas Brightly colored decorations made from ruffled tissue over chicken wire, filled with candy, toys, and other surprises; used in a Christmas game in which players break the piñatas with a stick and obtain the contents

pinbone (on carcass) Crest of the ilium
See Part 2: Bone in Retail Cuts

pinbone (on live animals) Bony structure on each side of the tail head (ischial tuberosity)

pinbone (sirloin) A sirloin steak found in the loin end, wholesale cut; it is located in front of the double bone sirloin; it is the first sirloin on the short loin end of the loin end cut

pinch As used in recipes, less than ⅛ tsp

Pinchow Large dairy cattle that are yellow and white, black and white, or red and white; obtained by crossing local cattle with Simmental; found in western Manchuria

pindar See **peanut**

pindo A tree fruit

pine A tree that is a fair firewood; 19 million Btus per cord (20% moisture); easy to start; difficult to split; medium smoke; fair coals and many sparks; makes good kindling

pineal gland Reddish gland located behind and above the pituitary; it regulates child growth, puberty, and maturity

See Part 2: Gland Weights

pineapple (abacaxi; pina; sugar loaf; *Ananas comosus*; *A. sativa*) 1) A tropical fruit that is native to Central and South America and is a multiple organ formed from more than a hundred flowers; pineapples are produced by planting the crown of leaves, the small leaves below the fruit (slips), or the small leaves from the base of the stem (suckers). Harvest in 15–20 months; will bear for many years with fruit becoming smaller; replant every 2–3 years; 50% edible. High in sugar and in vitamins A and C; eaten fresh or canned; juice used as a drink.

Variety	Ripe color	Description
Antigua black	Bronze	Small; oblong; good quality
Antigua white	Yellow	Medium size; good quality;
Puerto Rico, cabazona, bull head	orange-yellow	large; good for canning
Red Spanish	Golden to reddish	Small fruit; flesh is white and coarse; ships well
Smooth Cayenne	Golden to reddish	Large; flesh is light yellow and soft
Sugar loaf	Green	small; does not ship

Available:

Canned

Broken slices

Chunks

Cored cylinders

Crushed

Half slices

Large cubelike pieces

Sauce

Sliced

Spears

Tidbits

Fresh

Slices per can	Number	Diameter (in.)	Thickness (in.)
No. 1 flat	5	3	$\frac{5}{16}$
No. 1¼ flat	4	$3\frac{3}{4}$	$\frac{1}{2}$
No. 2	10	3	$\frac{3}{8}$
No. 2½	8	$3\frac{3}{4}$	$\frac{1}{2}$
No. 10	50	3	$\frac{3}{8}$

Spears per can: 12 (5 in. long) per extra tall No. 2 can
Frozen style (often garnished with mint or mint flavoring): chunks, crushed, tidbits

Equivalents:

1 crate (12 × 10.5 × 33 in.) = 70 pounds (lb)

1 crate (fresh) = 30 pineapples

= 12–16 quarts (qt), canned

2 pineapples, fresh = 1 qt, canned

1 medium, fresh = 2 lb

= 3 cups [1 cup = 145 grams (g) or 5.2 ounces (oz)]

572 pineapple (abacaxi; pina; sugar loaf; *Ananas comosus*; *A. sativa*)

1 small pineapple, peeled, cored, cut into $\frac{1}{2}$ -in. pieces = 2 cups
 5 lb, fresh = 4 pints (pt), frozen
 30-oz can = 8 slices (larger and thicker than in a 20-oz can)
 20-oz can = 10 slices
 1 lb, fresh = 2 cups, grated fresh
 = 1.25 cups, small cubes
 = 0.5 small pineapple
 = 4 servings
 13.5 oz, frozen = 3-4 servings
 Flat can = 4-5 slices
 1 cup, diced, fresh = 5.6 oz
 1 cup, chunks, fresh = 7 oz
 1 cup, canned, solids and liquids = 8.8-9.8 oz
 1 serving = $\frac{1}{2}$ cup
 1 slice, $\frac{3}{4} \times 3\frac{1}{2}$ in., fresh = 3 oz

Composition	Juice	Raw
Moisture (%)	86	85
Protein (%)	0.4	0.4
Fat (%)	0.1	0.2
Carbohydrate (%)	14	14
Ash (%)	0.4	0.4
pH	3.4-3.6	3.5-5.2

High in citric and malic acid and vitamins A (130 IU/100 g) and C (ascorbic acid 24 mg/100 g)
 Storage:

	Temp. (°F)	Relative humidity (%)	Storage life (weeks)
Green	50-60	85-90	3-4
Ripe	40-45	85-90	2-3

They will not ripen further after purchase; use as soon as possible; refrigerate, when ripe; when cut, refrigerate in covered container and use in 2-3 days; chill before serving

2) A variety of midsummer Florida orange. 3) An American, hard cheese See **black rot**; **brown rot**; **pineapple cheese**; **thielaviopsis stalk rot**
 See Part 2: Calories, Daily Recommendations; Flavor Ingredients, Taste and Flavor Type; Fruit Availability; Fruit Canning Dates; Fruit Classification; Fruit Composition; Fruit, Frozen Yield; Fruit Harvest Dates; Fruit Storage; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Standards, Processed Fruit and Vegetable Products; Storage; Vegetable Storage

pineapple bran Dehydrated, pineapple, process residue
 Composition: dry matter 87%; protein 4%; fiber 18%; fat 1%; ash 3%

pineapple, canned

Slices:

20-oz can = 10 whole, cored slices
 30-oz can = 8 whole, cored slices (larger in diameter and thicker)
 Flat can = 4 to 5 slices

Style: broken slices, chunks, crushed, cubelike, half slices, sauce, spears, tidbits, whole cored cylinders

pineapple cheese A smooth, hard, rennet, yellow, tangy-flavored, domestic, sandwich and dessert

cheese; it is shaped like a pineapple and diamond-scored, and rubbed with edible oil during ripening. A sharp, cheddar-type cheese made from whole, cow's milk that is cured in a net and has a surface, pineapple appearance

pineapple chunks (cuts; spoon cuts) Similar to tidbits except cut from slices twice as thick

pineapple cream cheese Pineapple-flavored, cream cheese

pineapple flavor A mixture of synthetic flavor, pineapple extract, alcohol, and water

pineapple, frozen

Forms: chunks, crushed, garnished with mint or mint-flavored, and tidbits

pineapple juice A sweet juice pressed from fresh, ripe pineapples and canned unsweetened (2.6 tsp sugar per 4 oz unsweetened juice). This is not the material in canned pineapple, which is a syrup and extracted pineapple flavor

1 cup = 8.6-8.8 oz

pineapple liqueur A high-alcoholic, pineapple-flavored beverage with a rum base

pineapple, physiological breakdown (juicy pineapple; water logging) A firm, light-brown water soaking of the flesh of the fruitlets beginning near their attachment to the core; only in advance stages does the surface of the fruit become discolored. Caused by exposure to low temperature (40°F)

pineapple spear (finger; longies) Sections cut vertically from the whole pineapple

pineapple tidbits Fan-shaped pieces cut from slices

Pineau Blanc See **Chardonnay**

Pineau Noir A variety of purplish black grapes that are fermented to yield red burgundy

pine bark Finely shredded bark used as organic matter; best if composted first

pine kernel (indian nut; pignoli; pignolia; pine nut; pinon nut; pinons; *Pinus edulis*) Pine seeds that are eaten as nuts and used in cooking and confectionery.

Arolla (*Pinus cembra*)—Switzerland

Chile or Monkey-puzzle (*Araucaria araucana*)—Chile

Gerard's (*P. gerardiana*)—Himalayan

Mexican nut (*P. cembroides*)—Mexico

Parana-Bunya (*A. bidwillii*)—Queensland

Pine (*P. sibirica*)—Russia

Stone (*P. pinea*)—Mediterranean

High in fat

pine needle oil, dwarf A volatile oil obtained by steam distillation of *Pinus mugo* leaves; used as an aromatic flavoring agent in food; sp. gr. 0.852-0.872
 Storage: full, tight, glass container in a cool, dark place

pine needle oil, Scotch A volatile oil obtained by steam distillation of *Pinus sylvestris* needles; used as turpentine-like flavoring agent in food
 Storage: in a full, tight, glass container in a cool, dark place

pine nut See **pine kernel**

pine tar A viscous, sticky liquid or soft solid with a pleasant odor; made by distillation of pine wood; used as a fly repellent

pinga A crude, light rum

pingue See Part 2: Poisonous Plants

pinholing Small holes in a container caused by external rusting or internal attack by the product

pink champagne A sparkling rosé pink wine with a fruity flavor

pinkelwurst An imitation, water-cooked (152°F) sausage made from beef fat, pork fat, oat groats, water, and onions and stuffed into 1½–2-in. diameter casings that are 10–12 in.

pink eye A disease of cattle that results in red and irritated eyes and eyelids; it forms a white scum over the eye and often causes blindness

pink fruit disease A cherry tree disease in which fruit fails to mature and remains a salmon pink color

pink lady A pink-colored, gin cocktail

pink salmon A light meat, light to moderate flavor, finfish See **salmon**

pink tip See **endoxerosis**

pink wine A rosé wine

pinnate Leaves that are finely divided

pinole Ground, parched, cereal grain; parching grain of edible grass and/or corn and grinding to a meal

piñon nut See **pine kernel**

pinot White, gray, and black grapes; Italian grape wine

pinot bianco A dry, white, Italian wine

pinot blanc 1) Grapes. 2) A dry, white, chablis-type, table wine

pinot chardonnay A crisp, dry, white, French burgundy with outstanding flavor

pinot gorgio A dry, white wine

pinot gris A sweet, white wine

pinot noir 1) Classic grape used to make burgundy. 2) A soft round, full-flavored, red, burgundy-type wine made in France from pinot grapes

pint (dry, U.S.) A measure of dry volume

1 pint = 33.6 cubic inches (in.³)
= 0.015625 bushel (bu)
= 0.50 quart (qt)
= 0.55059 liter (l)

pint (liquid; pt) A measure of liquid volume

1 (Brit.; Imperial) pt = 568.25 milliliters (ml)
= 20 ounces (oz; Brit. fluid)
= 1.20094 pints (pt; U.S.)
= 0.568 liter (l)

1 pt (U.S.) = 473.179 cubic centimeters (cc)
= 473.167 milliliters (ml)
= 28.875 cubic inches (in.³)
= 16 U.S. fluid ounces (oz; fluid)
= 4 gills (U.S.)
= 2 cups
= 0.83268 pint (pt; Brit.)
= 0.50 quart (qt; liquid)
= 0.4732 liter (l)
= 0.125 gallon (gal)
= 0.01671 cubic foot (ft³)
= 0.0006189 cubic yard (yd³)
= 0.0004723 cubic meter (m³)

2 pints = 1 quart (qt)

4 qt = 1 gallon (gal)

1 cup (U.S.) = $\frac{1}{2}$ pint (pt; Brit.)

See Part 2: Volume; Water, Weight and Volume

pintado (*Scomberomorus regalis*) A food fish

pinworm A food-borne parasite (*Enterobius vermicularis*) found in human feces; a nematode worm infesting the intestines

See Part 2: Insect Control

pioneersky A cottage cheese made from skimmed cow's milk with cream added to curd

piora A tilsit-type cheese matured for 6 months

piora cheese A cheese made from whole cow's and sometimes goat's milk and that is cured for 4–6 months

pip The seed of apple, orange, etc.

pipe 1) A variable size wine container

1 pipe = 115 gallons, port
= 105 Imperial-gallon cask for wine

1 pipe (Madeira) = 92 gallons

1 pipe = 2 hogsheads

2 pipes = 1 tun

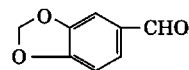
2) To squeeze a soft mixture from a pastry tube

pipeline stocks The quantity of any product needed to carry on normal processing and marketing operations

piperazine A drug used as a wormer

piperine A pungent, alkaloid, active principle of black pepper

piperonal



Used as a floral-like flavoring agent in food

Storage: cool, dry, dark place

pipette A glass tube used in the laboratory to measure volume; an opaque band at top of pipette (calibrated for blowout) indicates pipette should be blown out to get calibrated quantity See also **TC and TD**

pipi A sorghum beer

pipikaula Dried beef

pipillae Nipple-shaped projections on the inner surface of the rumen wall

pipino See **melon-pear**

pipo crem A log-shaped, blue cheese made from cow's milk

piquant 1) An agreeable, stimulating flavor; pleasantly biting; sharp; tart; pungent. 2) A strong-flavored, cow's milk cheese

piquillin A tree fruit used to make syrup, fermented wine, and brandy

piranha [*Serrasalmus* (Rooseveltiella) *nattereri*] An Amazonian food fish

pirate bug See **minute pirate bug**

pirogi Large, fried, wheat-flour, dough pies filled with cheese, fish, meat, vegetables, and sometimes fruit

pirozshki Small, fried, wheat-flour, dough pies filled with egg, fish, meat, or fruit

pisang ambon A spirit-based, alcoholic beverage; a liqueur

pisco A flowery brandy distilled from wine produced from muscat grapes

pisssala A fish (*Aphyia*, *Ergraulis* or *Gobius*) sauce that has a short fermentation period

pistachio (*Pistacia vera*) 1) A small tree that produces a 1-cm edible nut (bean-shaped, covered with gray, red, or purple skin); the nut may be eaten salted or used in confectionery, decorating, and flavoring. The green-colored, almondlike kernel is covered by a red skin; the shell is ivory white, dark, or spotted (latter two often dyed red); 98% split shells is desirable for easy shelling

Size:

California—21–25 per count (larger)

Iran—27–30 per count

Turkish—30–32 per count (smaller)

4–5% refuse

1 pound (lb), shelled = 2 lb, unshelled

1 lb, shelled = 3.2–4 cups

1 cup, shelled = 125 g (4.4 oz)

Composition: moisture 5–7%; protein 19–22%; fat 51–54%; carbohydrate 16–19%; ash 3–3.3%; sodium 6 mg/cup (125 g)

2) Green coloring

See Part 2: Minerals, Food

pistachio nut

1 pound, chopped = 3.5 cups

pistil The part of a flower that contains the ovary

See Part 2: Flower, Imperfect; Flower, Perfect

pistillate Large, female flower (no anther)

pistol A cut of beef from the round up through the chuck

pistola

Pistola hind—7 ribs attached; thin flank, kidney, kidney and pelvic fat, and udder removed

Pistola fore—5 ribs with all of thin flank attached

pistolet A small, middle-split bun

pit The stone (seed) of a fruit, e.g., cherry, date, etc.

pitanga (cayenne; Florida cherry; surinam; surinam cherry) A $\frac{1}{2}$ –1 in., juicy, subacid, soft fruit of a South American shrub that changes from green to yellow to red

pitaya (*Cereus spp*) A tropical American fruit

pit-cured fish Dried fish

pithing Destroying the medulla oblongata of the brain with a metal rod during slaughter

pithiviers au foin See **bondaroy au foin**

Pithomyces A type of mold

See Part 2: Molds, Mycotoxins

pithy A soft and spongy center

pítkapiima Thick, ropy, fermented, low–medium acid (pH 4.4–4.7), cow's milk

pito A sorghum beer

pi-tsi See **Chinese water chestnut**

pitta A pocket flat bread

pitting 1) The physiological breakdown of citrus fruit rind, producing abruptly sunken spots in the rind. In freshly harvested fruit the pits are small, rarely coalesce, and the affected areas remain firm; rarely leads to decay fungi. Pitting during storage is usually a symptom of chilling injury. 2) Johnston fruit rot is a fungus (*Piricularia grisea*) disease of bananas that usually appears during ripening as a faint red-brown, $\frac{1}{8}$ -in., depressed ring that later becomes more sunken and dark brown to black in color. Pit may extend deep into the peel but does not involve the pulp

pituitary gland Grayish yellow gland located at the base of the brain; it is made up of 2 sections:

Anterior lobe

adrenal cortex stimulating

gonad stimulating

growth-promoting hormone

mammary stimulating

thyroid-stimulating hormone

Posterior lobe

controls blood pressure and pulse rate

regulates contractile organs

regulates energy metabolism

See Part 2: Gland Weights

pivny A soft to semisoft, strongly flavored cheese made from cow's milk, ripened by surface bacteria, and wrapped in metal foil

piwna beer A semidry, cooked, double smoked Polish sausage made from medium chopped, medium seasoned, beef and pork and stuffed into a pork bladder

piyush Sour, diluted milk

pizza A bread-like crust topped with tomato sauce and one or more of the following: anchovies, beef, cheese, green peppers, mushrooms, olives, onions, sausage, or other vegetables; a $5\frac{1}{3}$ -in. sector of $13\frac{3}{4}$ -in. plain cheese pie = 155 calories

See Part 2: Grain Products, Composition

pizza cheese A low-moisture, mozzarella-type cheese

Composition: sodium 599 mg per $\frac{1}{4}$ pie (110 g)

pizza pepper Crushed, hot pepper

pizza salami A beef and garlic, finely chopped pepperoni; a dry, uncooked, smoked, Australian sausage made from finely chopped, heavily seasoned (garlic), beef that is fermented and stuffed into artificial casings

pizzle The penis of a male animal, especially a bull; a ring or disk on a carcass that can be used to identify the sex of the carcass

pK value The logarithm (to base 10) of the reciprocal of the equilibrium constant

$$pK = \log_{10} \frac{1}{K_{eq}}$$

Pl Private label

PL/1 (Program Language 1) A high-level, programming language that combines the business-oriented attributes of COBOL and the science-oriented attributes of FORTRAN

placenta 1) The ovule-bearing portion of the plant ovary. 2) The membrane that provides the physiological link in the uterus between dam and offspring
See Part 2: Orange Structure

place of origin The notation on a wine bottle that indicates where the grapes were grown

pla-chao A dark, salty, fermented fish paste made from freshwater fish with glutinous rice and potassium nitrate

pla-chaw A dark, salty, fermented fish paste

pla-chom A dark, salty, fermented fish paste

plaice [American plaice (North America), fluke; long rough dab; sand dab; summer flounder; *Hippoglossoides platessoides*; *Paralichthys dentatus*; *Pleuronectes platessa* (northeast Atlantic)] A flat, saltwater, Atlantic, food fish similar to flounder See **flounder**

See Part 2: Fish, Storage

plain chocolate (bitter chocolate) See **chocolate**

plain condensed milk Condensed milk that contains min. 7.9% milk fat, min. 25.9% total milk solids

plain condensed skimmed milk Condensed skimmed milk that contains min. 20% milk solids (not fat)

pla-mam A dark, salty, fermented fish paste made from freshwater fish with roasted rice and pineapple

Planck's quantum

$$6.624 \times 10^{-28} \text{ erg-seconds}$$

planimeter An instrument used to measure irregular areas

planking A method of broiling fish or meat on a wooden plank

plankton Freely floating, small or minute (most are microscopic), unattached, plant or animal organisms that have almost no power of locomotion

Type:

Phytoplankton—plant

Zooplankton—protozoan or animal

plant 1) A chlorophyll-bearing organism that synthesizes carbohydrates and proteins; composed of root, stem, flower, and fruit (seeds). 2) To sow seeds or insert cuttings in the ground

See Part 2: Acre, Plants; Acre, Trees

plantain (baking banana; cooking banana; *Plantago Musa paradisiaca*) 1) A tropical tree bearing banana-like (average 10 oz) green, yellow, red, or red-violet fruit that is larger (up to 1 foot), harder, coarser, and less sweet than a banana; usually cut green (eaten before ripe) and roasted, boiled, baked (350°F for 1 hour), or made into fritters or mashed prior to eating; never eaten raw. It has a bland flavor so spices are usually added. It is also ground into meal or may be dried. Often used as a vegetable or as a substitute for potatoes; a source of vitamin C and fiber; maintains a high starch content even when ripe. 2) *Plantago major*, a weed whose leaves are used in green salad

See Part 2: Plant Foods, Composition

planter's punch A rum and lime juice drink

planting See Part 2: Planting Density

plant lice See **aphid**

pla-paeng-daeng A dark, salty, slightly alcoholic, fermented fish paste

pla-paeng-khao-mak A dark, salty, slightly alcoholic, fermented fish paste

pla-ra A dark, salty, fermented fish paste with roasted rice

plasma Liquid or noncellular portion of the blood, lymph, or milk; serum is plasma from which the fibrinogen has not been removed

plasma membrane A triple-layered cytoplasm under the cell wall that regulates the passage of material into and out of the cell

plasmologens A phospholipid found in food

pla-som A dark, salty, fermented, fish paste

plaster A paste composed of lime or gypsum and water that hardens on drying

See Part 2: Liming Materials

plastic 1) A high-polymer film used for food packaging. 2) A texture capable of continuous and permanent deformation without rupture

See Part 2: Plastic Permeability

plastic range Temperature range within which a shortening or fat is readily workable or softened

plastification See Part 2: Margarine Production

plat du jour The special of the day

plate A cut of meat from the forequarter between the brisket and flank; about 12% of a choice steer carcass
See Part 2: Beef Chart; Beef Cuts; Beef Cuts and Uses; Meat Identification

plate count A procedure for estimating the number of bacteria by growing the cell into a colony that can be seen by the eye. The nutrient medium is often plate count agar

See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

plate count agar Agar used for standard plate count (or plate count)

platelet Disk-shaped (2–3 μm in diameter) cells in the blood; average 250,000–500,000/cubic millimeters of blood

pla-thu-khem Dried mackerel (*Rostrelliger*)

platinum (Pt) A metallic element; at. no. 78; at. wt. 195.09; Group VIII of Periodic Table; oxidation states +2, +4

electron configuration 2–8–18–32–16–2
orbit K L M N O P

plattar Small pancakes

-pleo- An affix meaning more

pleura Membrane lining the chest cavity and covering the lungs; often used in inspection of animals for tuberculosis

pleural Pertaining to the thoracic, lung, or chest area

pleurisy root (butterfly weed; swallowwort; tuber root; wind root) A bitter, acrid-tasting herb

576 pleuropneumonia

pleuropneumonia See Part 2: Microorganism Media

pliima Buttermilk

Plioilm A trademark for rubber hydrochloride; clear plastic used for food packaging

plockwurst A beef and pork coarse salami; a medium to coarsely chopped, uncooked, smoked or unsmoked, American sausage that is fermented, and/or dry or semidry, and available in links, rings, or large diameter casings; a dry, uncooked, smoked Austrian sausage made from coarsely chopped, medium seasoned (nitrate), beef and pork that is fermented and stuffed into artificial casings with a diameter of greater than 40 mm; a dry, uncooked, smoked Dutch sausage made from coarsely chopped, medium seasoned beef and pork that is fermented and stuffed into an artificial collagen casing

ploughman's lunch Cheddar cheese, crusty bread, and pickles

pluck 1) Organs in the thoracic cavity consisting of heart, lungs, gullet, sometimes liver, and windpipe used as food. 2) Removal of feathers

plum (*Prunus domestica*) A tree that yields a short-stalked, stone fruit may be red, green, or yellow and is used for dessert. Origin Central Asia; dried plums are called prunes.

Average yield 100 pounds/tree

Bearing age 4–5 years

Sprays required 9

Useful life 15 years

Varieties:

American—small; reddish yellow; often hard

Beach (*P. maritima*)—eaten raw; jam and jelly

Bullace—cooked

Cherry—cooking

Chickasaw or Mountain—low quality

Chinese or Japanese—large; yellow; juicy

Coe's Golden Drop—dessert

Damson (*P. institia*)—cooked; jelly and jam; small; dark blue; yellow flesh; sour

Egg—large; yellow; oblong

European—stewed; pie; preserved and canned; various colors and sizes

Gage—jam and canning; small; round; yellow-green; tart flavor

Imperial Epicure—eating

Japanese—fresh eating (yellow or red)

Jefferson—dessert

Kirke's Blue—dessert

Laxton's Delicious—dessert

Lombard—large; purplish red; juicy

Mirabelle (cloth of gold)—small; cooking

Natal or Amatungula or Carissa—acid taste

Pond's seeding—preserving and drying; very sweet

Prune—drying; small; oval or round; blue; mild flavor; firm; good shipper

Prune d'Agen—dried prunes

Sand cherry—thin skin

Sloe—wine and gin

Victoria—cooked; jam; canning; dessert

Zwetchgen—fermented

Plum type	Where grown	Variety	Self-fruited	Comments
American	Areas with severe winters	Underwood		Large; July; red; freestone
European	Most states	Blue Damson		Freestone; hardy; preserves
		Bluefre		Late midseason; blue; yellow flesh
		Bradshaw		Early; yellow; freestone
		Fellenberg (Italian Prune)	×	Midseason; blue; fresh, canned, dried, jam
		French	×	Used for drying
		Reine Claude (Green Gage)		Midseason, September; yellow-green
	Far West	Stanley	×	Large; blue; yellow flesh; freestone; midseason, September; fresh, dried, canned, jam
		Shropshire	×	Medium size; dark blue; August; fresh, canned, preserves, jelly
		President Tragedy		

(Continued)

Plum type	Where grown	Variety	Self-fruiting	Comments
Japanese (frost protected areas)	Calif.	Burmosa	Partially	Large; red
		Casselman		
		El Dorado		
		Friar		
		Laroda		
	North	Santa Rosa	Partially	
		Methley	Partially	
		Santa Rosa		
	South-west	Frontier		
		Ozark Premier		

Canned style:

Purple plum (prune plums)—not peeled, pitted
Green-yellow plum (Green Gage, Yellow Egg)—peeled, pitted

Packed in syrup of different strength

Canned varieties:

Egg (Yellow egg)—large, yellow, oval
Gage (Green Gage, Reine Claude)—smaller, light green or yellow-green, round

	Count per can	
	No. 2.5	No. 10
Egg plum		
Fancy	15	57
Choice	20	67
Standard	25	97
Gage		
Fancy	22	80
Choice	26	90
Standard	32	110

5% refuse

Equivalents:

1 bushel, fresh = 56 pounds (lb)
= 38-56 pints (pt), frozen
= 20-30 quarts (qt), canned

$\frac{1}{2}$ basket = 28 lb
4-basket crate = 20-29 lb
1 crate, fresh = 20 lb
= 13-20 pt, frozen

10 lb, canned = 10-14 plums
1.5-2.5 lb, fresh = 1 qt, canned
1 pt, frozen = 1-1.5 lb, fresh
1 lb, fresh = 4 medium plums
= 3 cups, pitted and cut into wedges
= 3-4 servings

1 cup, canned with pits, liquid and solids = 9 ounces (oz)
1 cup, without pits, liquid and solids = 8.4 oz
1 cup, slices = 6 oz
1 cup, halves = 5.6-6.2 oz
1 cup, diced = 4.6 oz
1 medium = 2 inch (in.) diameter
1 whole plum, 2 in. = 2.1 oz
1 serving = 2 medium-size plums = 0.5 cup

Ripen: Uncovered, room temperature, out of sun

Storage: Refrigerate (31-32°F), uncovered (80-85% relative humidity); when ripe, use in 3-5 days

Composition: moisture 79-87%; protein 0.5-0.8%; fat 0-0.2%; carbohydrate 12-20%; ash 0.5%; fiber 1.8%; pH 2.8-3.0

See Part 2: Canned Yield; Flavor Ingredients, Taste and Flavor Type; Fruit and Nut Rootstock; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit, Cooking; Fruit Frozen Yield; Fruit Harvest Dates; Fruit Servings per Pound; Fruit, Simmering; Fruit Storage; Minerals, Food; Organic Acids in Fruits and Vegetables; Plant Foods, Composition; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Storage Times; Sugar, Fruit; Wine, Sweet

plumba A special metal or wire tag used with meat to indicate they are Kosher

plum brandy A high-alcohol spirit distilled from fermented plum (*Prunus*)

plum, canned In addition to plums, may also contain natural and artificial flavors, spices, vinegar, lemon juice or organic acid, salt, and artificial colors

Type:

Green-yellow (green gage or yellow egg)—usually are peeled, not pitted

Purple (prune)—usually not peeled, not pitted

Packed in syrup (different sweetness)

Extra light syrup—11-15% sucrose

Light syrup—15-19% sucrose

Heavy syrup—19-25% sucrose

Extra heavy syrup—25-35% sucrose

plumcot A hybrid between plum and apricot that has purple skin and red flesh

plum curculio (*Conotrachelus nenuphar*) A small, grayish brown, humpback (four prominent humps on back) beetle with black and white markings and a pronounced snout; the larvae are whitish, $\frac{3}{8}$ -in. long, legless, slightly curved weevil with brown heads that feed on flowers, leaves, buds, and fruit.

Host: apple, apricot, cherry, nectarine, peach, pear, plum, quince and other fruit.

Damage: adults lay eggs in fruit and larvae tunnel in fruit causing half-moon-shaped scars, holes in the skin, and destroying the flesh

Control: pick fallen fruit; spray with malathion or methoxychlor

plump To soak dried fruit in liquid until they swell

plum pudding A pudding made with plums or sometimes other fruit.

Ingredients (originally contain plums): baking soda, citron peel, currants, eggs, flour, milk, orange peel, seedless raisins, salt, spices, suet, sugar, and vanilla extract

plumule A plant bud within the embryo

See Part 2: Corn Kernel; Wheat Kernel; Wheat Kernel Parts

plutonium (Pu) A synthetic radioactive element of the actinide series; at. no. 94; mass number of most stable isotope 242; oxidation states +3, +4, +5, +6. Highly toxic and fissionable

electron configuration 2-8-18-32-23-9-2

orbit K L M N O P Q

Plymouth gin A heavy, flavored, distilled spirit that is high in alcohol content

Plymouth Rock An American class of chicken that lays a light brown egg

Varieties	Plumage color	Shank	Beak
Barred (Also Bantam)	Gray-white with a dark bar across each feather	Yellow	Yellow
Blue	Male primarily slate blue with feathers laced with black, upper sections dark appearance Female primarily even shade of slate blue with narrow black lacing	Yellow Light Yellow	Yellow Yellow
Buff	Buff (golden)	Dark yellow	Yellow
Columbian	Mostly white, neck & tail feathers are black with white lacing	Yellow	Yellow with a dark stripe
Partridge	Male neck & back feathers green-black with red edging, rest of body darker slate Female neck & back feathers black with red lacing, rest of body slate	Yellow Light yellow	Yellow Yellow
Silver-penciled	Male neck & back white with black edging of feathers; rest of body black with some white Female gray with black penciling; gives lacy appearance	Yellow Light yellow	Yellow Yellow
White (Also Bantam)	White	Dark yellow	Yellow

See Part 2: Poultry Breeds and Varieties

P.M. (Post meridiem) After noon

Pm Symbol for the element promethium

pneumococci The spherical bacteria that cause pneumonia

See Part 2: Microorganism, Media

pneumonia Inflammation of the lungs

Po Symbol for the element polonium

p.o. (per os) Latin for by mouth

poach To cook (fish or eggs) in liquid (water, milk, or cream) just below the boiling point (below 190-200°F); time required for eggs is 4-6 min at 185°F (85°C)

poakan See pokeweed

poake See pokeweed

poblano A chile pepper; when fresh it looks like a large green tapered bell pepper; mild to faintly hot
See pasilla

poblano chile Large dark green, mild to hot, elongated bell-shaped chili; sweet, green pepper can be substituted

pocheen Whiskey distilled from fermented, malted barley, mixed with oats, rye, or wheat

pod Pericarp; covering of seed

-pod- An affix meaning foot

podlaska A moist, cooked, smoked Polish sausage made from fine or medium chopped, medium seasoned beef and pork and stuffed into sheep or artificial casings

podzolic Red-yellow, acid, sandy, surface soil

poffertjies A wheat-flour doughnut covered with sugar icing

pohenichnaya A Russian vodka made from wheat

poi Fresh or fermented taro tubers; purplish, gooey, starchy, taro paste; breadlike food made from sour dough produced from starchy fruit or tubers of breadfruit, cocoyam, taro, or unripe banana
Thickness:

One finger—thick

Two finger

Three finger—thinnest

See taro

poikilotherms Animals that have little or no control over their body temperature; cold-blooded

point-of-sales material Advertising to be used by a retailer

point of shoulder Lower end of shoulder blade

point steak A steak cut from an individual muscle in the rump area

poire Williams A brandy distilled from fermented William pear (*Pyrus*)

poise Measurement of viscosity of a liquid; number of grams per centimeter-second

1 poise = 100 centipoise

= 2.089×10^{-3} pound (weight) second per square foot

= 1 gram per centimeter-second

= 0.067 pound (mass) foot-second

poison Any substance that, when it comes into contact with the body (in a variety of routes) in small amounts may cause damage to structures, disruption of function, or death

See Part 2: Food Poisoning, Bacteria; Plant and Animal Poisoning; Poisonous Plants

poison vetch A plant having a toxic principle
See Part 2: Poisonous Plants

poisson Fish (French)

Poisson distribution A frequency distribution in which the variables are counted rather than measured. Information available: the number of times an event occurs, for example, number of "heads" when a coin is tossed 10 times

poivrade A brown sauce with pepper

poivrade sauce A brown sauce containing vinegar, wine, and vegetables and flavored with peppercorns

poivre d'ane A valençay-type cheese made from goat's or sheep's milk and rolled into small balls and covered with rosemary or savory twigs

poke A leafy vegetable used as greens or in salads; available in canned or frozen form

pokeberry (*Phytolacca americana*) Shoots used as a substitute for asparagus

pokeroot (garget, pigeonberry) Both roots and berries are used as an herb

pokeweed (poakan; poake; pokeberry; pokeroot; pocan; *Phytolacca decandra*) A perennial aromatic herb whose leafy shoots are used as a vegetable; a plant having a toxic principle

Parts eaten:

Berries—toxic

Roots—poisonous

Seedling—spinach-like

Shoots—asparagus-like

See Part 2: Poisonous Plants

Poland Carbonic, acid water

Poland China A meat-type breed of hogs that originated in southwestern Ohio with much the same early breeding as the Spotted Poland China; the Berkshire and Irish Grazer were then used to improve the type; these contributed the solid color, which is black, preferably with 6 white points, and a drooping ear

See Part 2: Swine Breeds

polar 1) A compound capable of forming ions. 2) A liquid with a high dielectric constant, e.g., water

polar cod (*Boreogadus saida*) A food fish

polarimetry An optical analysis based upon the rotation of polarized light when it passes through a solution

polar plaice (*Liopsetta glacialis*) A food fish

pole dab (witch flounder) A food fish

polenta A meal or flour porridge; a mush made from various granulated cereals

policeman A stirring rod made of glass and fitted with a rubber tip; used for loosening precipitates from glassware

policy A course of action

polioencephalomalacia (PEM) Softening of the gray matter of the nervous system

poliomyelitis A crippling disease caused by a virus that attacks motor nerve centers in the spine. Possible hazardous foods that harbor the virus include:

raw shellfish, milk and dairy products, and contaminated raw vegetables

See Part 2: Infectious Diseases, Food-Borne

Polish

Food habits:

Animal products—meat, pork, fish

Dairy products—cheese, cottage cheese, milk, sour cream

Grain—buckwheat, rye, wheat

Vegetables—cabbage, potatoes

Polish clobassy A moist, cooked, Australian sausage

polished Having a smooth surface

polished rice Rice grain with husk and bran removed See also rice

Polish rings A moist, cooked, unsmoked Irish sausage made from finely chopped, mildly seasoned pork and stuffed into an artificial casing

Polish salami A moist, cooked, smoked Australian sausage made from medium chopped, heavily seasoned (garlic), beef and stuffed into an artificial casing

Polish sausage (kielbasa) 1) A coarsely chopped, uncooked, beef and pork (must be at least 50% pork or beef must be on the label) sausage that is normally made into 6-in. lengths; a moist, cooked, or uncooked, smoked or unsmoked, medium or coarsely chopped American sausage made from mild, medium, or heavily seasoned (garlic), beef and pork and stuffed into a large diameter link or ring, pork or artificial casing; an uncooked, smoked sausage made from pork and beef that is highly seasoned with garlic and requires thorough cooking. Green peppers are permitted up to 4%

Composition: moisture 53%; protein 14%; fat 29%; carbohydrate 1.6%; ash 2.4%

2) A moist, cooked, medium chopped, mildly seasoned Australian sausage See kielbasa

See Part 2: Sausage, Types

poll The top of the head; cut horns

pollack See pollock

pollan (freshwater herring) A whitefish

polled (muley) Naturally hornless; absence of horns

Inheritance of horns:

Horned cattle (xx) × homozygous polled cattle (yy)
→ offspring heterozygous polled (xy)

Horned cattle (xx) × heterozygous polled cattle (xy)
→ $\frac{1}{2}$ offspring horned (xx) and $\frac{1}{2}$ offspring heterozygous polled cattle (xy)

x = gene for horned

y = gene for polled

xy = heterozygous polled

Polled Cattle Herdbook Early name of Aberdeen Angus Cattle Society

Polled Hereford Similar to Hereford cattle except that they have no horns; the cattle can be registered as both Hereford and as Polled Hereford. Warren Gammon of Des Moines, Iowa, started the breed from

polled mutants of registered Herefords; polled characteristic is a dominant trait. *See also* **Double Standard Polled Hereford** and **Single Standard Polled Hereford**

See Part 2: Beef and Dual-Purpose Cattle

Polled Shorthorn Southern cattle without horns; registered in Shorthorn Herdbook *See also* **Single Standard Polled Durham** and **Double Standard Polled Shorthorn**

See Part 2: Beef and Dual-Purpose Cattle

poll evil A running sore behind the ears

pollination (fertilization of flowers) When the stigma of the pistil is supplied with pollen; when this reaches the ovules, it is called fertilization

Types:

Close—pollen from the same flower or other flowers from the same plant

Cross—pollen obtained from other plants from the same species

Hybridization—pollen obtained from related species

pollock (Boston bluefish; coalfish; deep-sea fillet; green cod; green codfish; greenfish; lythe; pollock; *Gadus pollachius*) A lean fish of the cod family; an Atlantic and Pacific, saltwater, light meat, light to moderate flavor, codlike, finfish that may weigh up to 25 pounds; consumed, fresh and salted

Alaska (Theragra chalcogramma)—4–12 pounds; firm texture; white flesh with a mild flavor

Atlantic pollock—4–12 pounds; firm texture; white flesh and mild flavor

Europe (*Pollachius pollachius*)

Pacific (*Pollachius virens*)

Sablefish (*Anoplopoma fimbria*)

Composition: moisture 77%; protein 20%; fat 1%; ash 1.3%

See Part 2: Fish, Storage; Frozen Food Storage

pollock melon A round melon with a gray rind and pink or green flesh

pollute To make impure, unclean, foul, or contaminate

polnische A semidry, cooked, smoked Austrian sausage made from coarsely chopped, medium seasoned (nitrite), beef and pork and stuffed into an artificial casing with a diameter of greater than 40 mm

polonium (Po) A radioactive element; at. no. 84; Group VIA of Periodic Table; mass number of most stable isotope, 210; oxidation state +2, +4
electron configuration 2-8-18-32-18-6
orbit K L M N O P

polony A fine to medium chopped, cooked, smoked, American sausage available in medium to large diameter links or large diameter casings for slicing; a moist, cooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef and pork and stuffed into beef, pork, or artificial casings

poloxalene A drug used to prevent bloat

poloxamer 331 Used as a stabilizing or solubilizing agent in food; average molecular weight 3,800
Storage: tight container

poloxamer 407 Used as a stabilizing or solubilizing agent in food; average molecular weight 12,500
Storage: tight container

polsa A moist, cooked, unsmoked Swedish sausage made from coarsely chopped, medium seasoned meat with the internal organs and barley grain added and stuffed into an artificial casing

polski salami A moist, cooked, Australian sausage

poltava A moist, cooked, Australian sausage

poltawer A dry, cooked, smoked eastern German sausage made from coarsely chopped, medium seasoned beef and pork and stuffed into a beef, pork, or artificial casing

polvilho azedo A type of gari

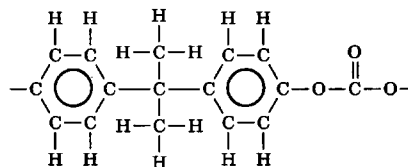
poly- A prefix meaning many or much

polyamide A natural or synthetic high polymer containing a CONH₂ group; among the natural products of this type are the proteins casein (milk) and zein (corn). Nylon is an example of a synthetic polyamide

polyanitsya A white, wheat bread

polybasic acid An acid having more than one replaceable hydrogen *See also* **dibasic acid**; **tribasic acid**

polycarbonate (PC)



Tough, thermoplastic, clear, strong, rigid, autoclavable, nontoxic plastic often used to make high-speed centrifuge ware

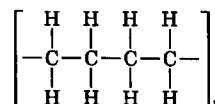
polychlorinated biphenyl (PCB) Used to manufacture a wide variety of industrial products; now part of our global ecosystem and is an environmental problem. It is a lipophilic residue and its manufacture was phased out in 1979 in the U.S.

polyculture Stocking areas with different species occupying different ecological niches

polydipsia Excessive thirst

polyester A condensation reaction product of a dihydric alcohol and a dicarboxylic acid. Polyester films will remain flexible through a wide range of temperature; hard to seal on conventional equipment; coating with polyethylene provides heat-sealing properties; it is shrinkable, clear, and has low O₂ and water permeability; base film for cooking directly in package; generally used in thicknesses of 0.0005 in. or less laminated to less expensive material

polyethylene (polythene)



An addition polymer of ethylene having various molecular weights; it may be either linear (amorphous) or crosslinked (crystalline). The linear type may be either high or low density. Branch chains may occur and can be controlled; minimum branching produces high-density or linear polyethylene (HDPE) and more branching produces low-density or conventional polyethylene (LDPE). One of the major uses of linear polyethylene is as packaging film and as a bonding agent in laminates. Film is available in several densities: it has good strength and heat-sealing properties, transparency, low water vapor transmission rate, and high gas transmission rate; low-density type is flexible, tough, transparent; medium density is slightly stiffer; high density is stiff. Laminated polyethylene gives a film that is relatively impermeable to air and moisture; used for vacuum and inert gas packaging; may be used as a masticatory substance in chewing gum

Storage: well-closed container

See Part 2: Plastic Permeability; Wax

polyethylene glycol (PEG) General formula $\text{HOCH}_2(\text{CH}_2\text{OCH}_2)_n\text{CH}_2\text{OH}$; used as a food coating, binding, dispersing, and plasticizing agent, and as a lubricant or flavoring adjuvant

Storage: tight container

polyglycerate-60 See **ethoxylated mono- and diglyceride**

polyglycerol ester Obtained from animal fat and vegetable oils; used as an emulsifier; made from polyglycerol and fatty acids; can have a range of HLB values

polyglycerol esters of fatty acids Mixed partial esters of polymerized glycerols with fat or fatty acids; used as a food emulsifier

Storage: tight container

polyhalogenated aromatic hydrocarbons A long-term stable family of chemicals used in a variety of industrial application. Polychlorinated biphenyls (PCBs) are a subgroup and are considered environmental pollutants

polyhydric Containing more than two replaceable hydrogens or hydroxyl groups per molecule

polyisobutylene Used as masticatory substance in chewing gum

Low molecular weight—soft

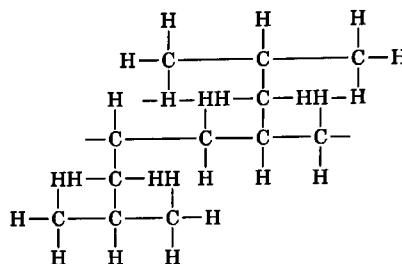
High molecular weight—elastic

polymer Large complex molecules made up of small molecules (monomers); starch, e.g., is a polymer of glucose

polymerization A chemical reaction in which molecules combine to form large units. In fats this causes the undesirable formation involving agglomeration or clumping of normal fat and its decomposition products into larger and insoluble chemical units of gums and sludge. It is desirable in drying oils

polymerize To make large molecules by combining small ones

polymethylpentane (PMP or TPX)



A plastic that has transparency, rigidity, chemical resistance, impact resistance, and will withstand repeated autoclaving

polymorphism The property of a substance that enables it to solidify in different crystal forms, e.g., fat. Crystal forms often influence melting points, densities, and heat of fusion

polynucleated A cell with more than one nucleus, e.g., muscle fiber (cell)

polyol General name for polyhydroxy compounds

polypeptide See **peptide; protein**

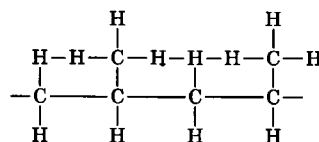
polyphagia Excessive eating

polyphosphate See **phosphate; sodium phosphate**

See Part 2: Phosphate

poly-poly A jam and dough pudding

polypropylene (PP)



A plastic that is translucent, autoclavable, and has no known solvent at room temperature. An addition polymer of propylene, from which are made films of high tensile strength and high grease resistance that are transparent, brittle at low temperatures, and have medium O₂ and low water permeability; used as packaging film; can be heat-sealed

polysaccharide A large class of natural carbohydrate polymers, which includes cellulose, starches, water-soluble gums, and seaweed products (phycocolloids). Carbohydrate that is decomposable by hydrolysis into monosaccharides

polysorbate Nonionic surface-active agent made by esterifying sorbitol $[\text{C}_6\text{H}_8(\text{OH})_6]$ with a fatty acid; called polyoxyethylene fatty acid esters; used as emulsifiers, dispersing agents, and as shortening in baked products

Types:

20 (polyoxyethylene, 20, sorbitan monolaurate)—A mixture of laurate partial esters of sorbitol and sorbitol anhydrides (1 mole) condensed with 20 moles of ethylene oxide

582 polysorbate

60 (polyoxyethylene, 20, sorbitan monostearate)—A mixture of stearate and palmitate partial esters of sorbitol anhydrides (1 mole) condensed with 20 moles of ethylene oxide

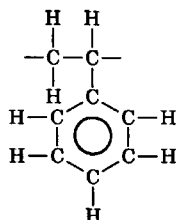
65 (polyoxyethylene, 20, sorbitan tristearate)—A mixture of stearate and palmitate partial esters of sorbitol and its anhydrides (1 mole) condensed with 20 moles of ethylene oxide

80 (polyoxyethylene, 20, sorbitan monooleate)—A mixture of oleate partial esters of sorbitol and sorbitol anhydrides (1 mole) condensed with 20 moles of ethylene oxide

Used as a food emulsifier or stabilizer

Storage: tight container

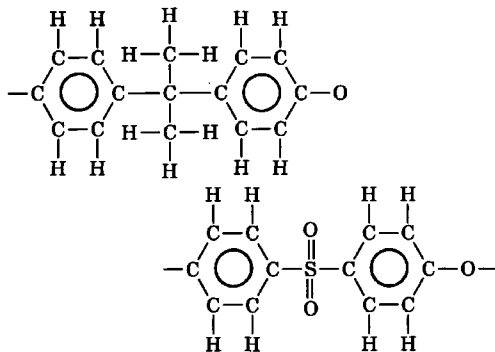
polystyrene (PS)



An addition polymer of styrene; a plastic that is rigid, chemical resistant, and has dimensional stability; used for disposable laboratory products; gives transparent, stiff films of high permeability and moderate temperature resistance

See Part 2: Insulating Value; Insulation, Conductivity Values; Plastic Permeability

polysulfone (PSF)



A clear, strong, nontoxic, unbreakable resin

polythene See polyethylene

polyunsaturated fatty acid A fatty acid containing two or more double bonds. These fatty acids (e.g., linoleic, linolenic, or oleic acids) contain less hydrogen than saturated or unsaturated fatty acids

Recommendation: 10% or less of total calories from polyunsaturated fatty acids

See Part 2: Fats and Oils, Characteristics

polyurethane A high polymer made by a condensation reaction of a diisocyanate and a hydroxyl-containing molecule (alcohol or drying oil); foams are used for building insulation

See Part 2: Insulating Value

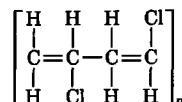
polyvinyl acetate Used as a masticatory substance in chewing gum

Storage: tight container

polyvinyl butyral (polyvinyl acetal) A high polymer made by a condensation reaction of polyvinyl alcohol and an aldehyde; used as films for packaging and in glass laminates

See Part 2: Plastic Permeability

polyvinyl chloride (PVC)



A polymer of vinyl chloride; a transparent film; good grease and solvent resistance; low to medium gas permeability; moderate temperature range; stretchable; can be heat-sealed; used for narrow-mouth bottles and laboratory tubing

See Part 2: Plastic Permeability

polyvinylidene chloride (Saran) A high polymer made by polymerization of vinylidene chloride ($\text{CH}_2=\text{CCl}_2$)_n; film for packaging meats and poultry

See Part 2: Plastic Permeability

pomace (marc; pummace) Fruit pulp; fish; spent grains; ground apples or fruit; residue left after extracting the oil from the castor bean or fish See lees

See Part 2: Fertilizer Materials

pomace wine A wine made by extracting marc or pomace with sugar solutions and fermenting the extract

pombe A sorghum beer

pome A subdivision of simple fruit; its ovary is a paperlike inner portion, around which is the fleshy part of the plant, e.g., apple, pear

See Part 2: Fruit Classification

pomegranate (apple of Carthage; *Punica granatum*) A small tree that bears a hard, thick-skinned, orange-red, orange-sized berry; divided into cells; each cell contains a large quantity of jewellike seeds (unpleasant taste) encased in a pink acid-sweet, juicy, slightly tart flesh or pulp; may be eaten raw; juice used for drinks or wine; seeds are used for conserves or syrup (grenadine), soup, sauce, and desserts. Orange-red juice may be used in drinks or frozen; grenadine (made from the juice) used in flavoring drinks; fair source of potassium

Variety:

Sweet

Wonderful

1 fruit = 2 servings

Composition (raw): moisture 82%; protein 0.6%; fat 0.3%; carbohydrate 16%; ash 0.5%; pH 3.0

Storage: 34°F, 85–90% relative humidity, 2 month storage life

See **aspergillus black-mold rot**; **gray-mold rot**; **grenadine syrup**; **heart rot**

See Part 2: Fruit Composition; Fruit Storage

pomegranate internal breakdown A physiological disorder in which the arils are light in color, flat, and have an undesirable taste; the pomegranate also has white lines radiating from the seeds to the outer walls

pomegranate splitting (pomegranate cracking)
Can be avoided by picking before fruit becomes mature

pomegranate sunscald (pomegranate sunburn)
The stem-end rind becomes brown, slightly russeted, and tough; considered a blemish

pomelo (pummelo, shaddock) A tree that has the largest fruit of the citrus species; it has a thick skin and bitter pulp *See grapefruit*
See Part 2: Fruit Storage

pomeranzen An orange-flavored liqueur

pomerol A mellow, red wine that has a good color and bouquet

pomfret A saltwater food fish
Black (*Stromateus niger*)
United States (*Brama raii*)
White (*S. cinereus*)

Types: black, silver, white

pommard A red wine

pommel A soft, rich, fresh, unsalted, double-cream, French cheese

pompano (*Trachinotus carolinus*) A mackerel-like, fresh or saltwater, food, finfish of the *Carangidae* family that weighs up to 3 pounds; has light meat and light to moderate flavor

ponche A dark brown liqueur with a brandy and sherry base

poncio A vanilla-flavored liqueur

pond cabbage *See ong choy*

ponebread Cornbread

pon-haws *See scrapple*

pon hoss *See pan lous*

ponie A split bottle (individual service) for packaging wine

pontgibaud A roquefort-like cheese made from cow's milk

pont l'evêque A semisoft, somewhat compact curd, cheese that has countless holes, a strong sweet flavor (matured 2–6 months), and a thin yellow rind; made from whole cow's milk with rennet added and ripened by surface microbial (*Monilia candida*) growth; formed into 200–800 gram bricks (4 × 4 × 1 in.) and packed in wooden chip boxes

pony 1) A measure used in mixed drinks

1 pony = 1 ounce
= 2 tbsp

2) A young or small horse, usually considered under 14.2 hands

poona cheese A fat, soft, light-colored limburger-type cheese that has small holes and is made from whole cow's milk and is ripened by surface bacteria

poora (pura) A pancake with raisins and spices

poor cod (*Gadus minutus*) A food fish

poor man's asparagus *See leek*

poor man's bean *See tongan*

pop (soft drink) A nonalcoholic, effervescent beverage

popcorn (*Zea mays everta*) Small ear, hard kernel, Indian corn that explodes when exposed to dry heat (some corn expands 38 times the size of the kernel) and exposes the starchy interior; small pointed round kernels; very hard endosperm. Plant 4–6 lb per acre; harvest when ears are dry. Used as a snack food

Kinds:

Hull-less (hulless)—white or yellow; long kernel with thin tender hulls

Pearl—white or yellow; smooth, rounder kernel

White rice—white, pointed kernel

“Old maids” or “grannies” are unpopped kernels

For popping: 13–20% moisture corn and 450°F oil; don't add salt until after popping

Popcorn variety	Length of ear (in.)	Color	Season (days)	Stalk (ft)
Best Yellow (hybrid)		Yellow	105	
Burpee's Peppy (hybrid)	4	White	90	5
Japanese Hulless	4	White	95	6.5
South American (hybrid; 14–16 rows per ear)	7.5	Yellow–orange	105	
Strawberry (round ear)	2	Dark red		
White Cloud (hybrid)		White	95	
White Hulless (hybrid)		White	100	

70 pounds, on ear = 1 bushel

56 pounds, shelled = 1 bushel

1 cup, unpopped = 20 cups popped

Composition (unpopped): moisture 10%; protein 11–12%; fat 5%; carbohydrate 72%; ash 1.5%

Composition (popped): moisture 4%; protein 11%; fat 5%; carbohydrate 79%; ash 1.3%; sodium (caramel-coated) 262 mg/cup (35 g); sodium (buttered or oiled and salted) 175 mg/cup (9 g); 40 calories per cup; sodium (plain) 1 mg/cup (6 g)

Storage (unpopped): 32°F, 85% relative humidity

See also corn

See Part 2: Grain Products Composition; Seed, Chemical Composition

popcorn balls Balls made from popped corn and molasses. Ratio of ingredients 6 quarts of popped corn to 1 pint of molasses

pope (ruffe; *Acerina cernua*) A food fish

Pope's eye A lymphatic gland in leg of mutton and beef

popliteal *See Part 2: Lymph Nodes, Ox, Lateral; Lymph Nodes, Pig; Lymph Nodes, Sheep*

poponsu A sour, maize porridge

popover A thin batter baked into a hollow shell; a light muffin that rises (steam acts as the leavening agent) above the container

Ingredients: flour (1 volume), liquid (1 volume), eggs and salt; bake 30 min at 450°F, then 15 min at 350°F

poppadom See **papadam**

poppy

Oil—used for cooking and salads

Seed—black or gray; 900,000 per pound; toasted, browned in butter

poppy leaves Young leaves can be eaten

poppy, prepared Made by cooking ground poppy seed, honey, and syrup

poppy seed (*Papaver somniferum* L.) The tiny, kidney-shaped blue seed of the poppy plant used as seasoning; no narcotic content (not the seed of opium poppy); 900,000 seeds per pound; nutlike flavor, odor, and taste; used on rolls and bread

Form: usually whole but can be ground (high in oil); the oil is obtained by pressing the seed

Properties (oil): iodine number 133–158; refractive index (15.5°C) 1.476–1.478; saponification number 189–197; solidifies at –18°C; sp. gr. 0.924–0.927

Source: Australia, Netherlands, Romania, Turkey

Composition: moisture 6–7%; protein 17.5–18.5%; fat 44–45%; carbohydrate 23–24%; fiber 6–7%; ash 6–7%

Seed storage: refrigerate due to high oil content

See Part 2: Fats and Oils, Physical and Chemical Properties; Tocopherols

popularna A moist, cooked, double-smoked Polish sausage made from fine or medium chopped, medium seasoned beef and pork and stuffed into a beef casing

population See Part 2: Population

porbeagle (*Lamna nasus*) A food fish

porcine Pertaining to swine or pigs

porc salé aux choux Salt pork and cabbage

porged Blood vessels removed by hand

porgy (*Calamus* spp.; *Pagrosomus* spp.; *Stenotomus* spp.) A food fish See **scup**

pork (*Sus domestica*) Meat or flesh of swine or pigs; well done = 170°F

1 barrel = 220 pounds

5–5.5 pounds of fresh, untrimmed, with bone, pork loin = 1 quart, canned

Composition: cholesterol 75 mg/3 oz

See Part 2: Animal Foods, Composition; Bone; Braising Time; Broiling Time and Temperature; Calories, Daily Recommendations; Cholesterol Control; Food, Composition; Frozen Food Storage; Frozen Meat Storage Time; Glutamate; Glutamate Addition; Grades, Meat; Iron, Daily Recommendations; Liver; Meat and Meat Products Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat Label; Meat, Nutritive Value; Meat, Servings Per Pound; Meat Storage; Minerals, Food; Minerals, Plant or Animal Tissue; Niacin, Daily Recommendations; Pork Carcass, Retail Yield; Pork, Chart; Pork Cookery; Pork, Cooking; Pork Cooking Methods; Pork Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Loin Carving; Pork Loin Cooking; Pork Loin Nomenclature; Pork, Percentages of Daily Recommended Allowances; Pork Storage; Pork Wholesale Cuts; Pork Yield; Riboflavin, Daily Recommendations; Roasting

Meat; Roasting, Time and Temperature; Sausage Composition; Simmering Meat; Specific Heat, Meat; Thiamin, Daily Recommendations; Thiamin, Food; Vitamin A, Food

pork and beans See Part 2: Beans, Peas and Nuts

pork and beef sausage A moist, cooked or uncooked, smoked or unsmoked American or Irish sausage made from medium chopped, mild or medium seasoned beef and pork and stuffed into pork, sheep, or artificial casings

Composition (American, cooked): moisture 44.5%; protein 13.8%; fat 36%; carbohydrate 2.7%; ash 2.7%; sodium 217 mg/patty (27 g)

pork chop A single section of pork loin from 1–3 cm thick, often containing a portion of a rib or loin bone See Part 2: Braising Meat; Braising Time

porker A pig between 6 and 12 months of age

pork fat Rendered pork fat is a lower grade of cooking fat than lard, which is rendered from edible organs, bones, cured pork, and cooked pork

See Part 2: Oils and Fats Composition; Unsaturated Fatty Acids

pork gravy

Composition	Dehydrated	Prepared with water
Moisture (%)	4.0	92.1
Protein (%)	9.0	0.7
Fat (%)	9.0	0.7
Carbohydrate (%)	63.0	5.2
Ash (%)	15.0	1.2

pork hash A steamed pork patty with chestnuts, mushrooms, and bamboo shoots

porklet See Part 2: Pork Loin Cooking

pork link See Part 2: Meat Composition

pork loaf See Part 2: Pork, Cooking

pork loucanica A moist, uncooked Greek sausage made from coarsely chopped, medium seasoned pork and stuffed into a sheep casing

pork, onion, and tomato sausage A moist, cooked, unsmoked Irish sausage made from medium chopped, medium seasoned pork and stuffed into an artificial casing

Pork Promotion, Research, and Consumer Information Act Provides for a check-off, referendum and producer-operated promotion and research program for pork

pork roast A 3 pound or heavier cut of pork shoulder, ham, or loin baked or roasted in an oven

pork roll A medium to coarsely chopped, cooked, smoked or unsmoked, American sausage available in large diameter links, rings, or large diameter casings; may be fermented and/or dry or semidry; chopped pork is cured and placed in a muslin container; it is then held until a tangy flavor develops; it is normally cooked but not smoked

pork sausage A sausage made from ground fresh pork with seasoning added; meat ground through the $\frac{3}{16}$ -in. plate. Max. 50% trimmable fat; min. 9.4% protein; max. 3% added water. May be fresh or frozen or

smoked pork. Fresh pork sausage cannot contain pork by-products (cheeks, tongues, heads, lungs, or head meat); may contain antioxidants

Label terminology:

Country style—only natural spices; 75% lean, ground through the $\frac{1}{4}$ -in. plate. Storage temp: 28–30°F

“Made from” hams, loins, and pork—made from cuts identified in descending order of predominance

Whole hog *See whole hog sausage*

Seasoning: 30 oz salt, 6 oz black pepper, and 2 oz sage per 100 lb of meat; for hot sausage, add 6 oz of red pepper

Available forms: patties, bulk, or links

Composition	Cooked	Raw
Moisture (%)	44.6	44.5
Protein (%)	19.6	11.7
Fat (%)	31.2	40.3
Carbohydrate (%)	1.0	1.0
Ash (%)	3.6	2.5

Sodium 168 mg per link (13 g)

See Part 2: Niacin, Daily Recommendations; Sausage Identification; Sausage Nutritive Value; Thiamin, Daily Recommendations

pork sausage, country style (rope sausage) Fresh sausage made of coarsely (more coarsely ground than fresh pork sausage) ground, fresh pork; may be smoked or unsmoked; must be thoroughly cooked

pork sausage, fresh A moist, uncooked, unsmoked American sausage made from medium or coarsely chopped, mild, medium, or heavily seasoned pork and stuffed into a pork, sheep, or artificial casing or not stuffed into a casing. Available in bulk, small diameter links, machine formed or extruded patties, and chubs

pork sausage, Irish A moist, uncooked, unsmoked Irish sausage made from fine or medium chopped, mild or medium seasoned pork and stuffed into a pork, sheep, or artificial casing or not stuffed into a casing

pork sausage, Italian style Highly seasoned fresh pork sausage

pork sausage link Fresh sausage (uncooked and unsmoked) made of selected fresh pork; must be thoroughly cooked

pork sausage, smoked country style Uncooked, smoked, mildly cured fresh pork sausage; a moist, cooked or uncooked, smoked, medium or coarsely chopped, mildly seasoned, American, pork sausage that is cured and stuffed into a pork or artificial casing; available in small diameter links or unlinked, in rolls for slicing, or machine formed or extruded

pork trimmings Regular: 50% lean, 50% trimmable fat. Lean: 80% lean, 20% trimmable fat

pork with barbecue sauce Min: 50% meat (weight of cooked and trimmed meat) or 72% uncooked meat

poro metwurst Beef and pork or reindeer salami

porridge A hot breakfast cereal; boiled oatmeal *See also* oat

port A red, sweet, usually matured, dessert wine from the Douro river valley in northern Portugal; a fortified and blended red wine with a sweet, rich flavor; alcoholic content, 20% by volume

Types:

Crusted—not from a single year; has a crust; high quality; aged in bottle

Late bottled vintage—aged; made from single year

Madeira—long-lived; burnt flavor

Bual (boal)—sweet; delicate; dessert

Malmsey—full body; sweet dessert

Sercial—dry; bitter; aperitif

Verdelho—light color and body; dry

Marsala—Sicilian; dessert wine

Ruby—sweet; robust; deep ruby color; aged in wood

Gold cap—young; full; rich

Tawny—blends; tawny brown color; aged in wood

Directors' bin—aged; rich liqueur wine

Hunting—light; full body

Vintage—aged; single year; crusted

White—white grapes; may be dry; medium or sweet

port du salut (oka) A dessert cheese with a soft, creamy, buttery, yellow interior; it has a golden crust and a full rich, robust flavor; made from whole or sour cow's milk and ripened 6–8 weeks

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

port du salut cheese A medium flavored (similar to gouda), semisoft, oval (7–10 inches), French, rennet, dessert and supper cheese

Composition: moisture 45–46%; protein 23–24%; fat 28–29%; carbohydrate 0.5–0.6%; fiber 0%; ash 1.5–2.5%

Storage: can be frozen (0°F) if no more than 1 inch thick; use in 6 months

porter A sweet, low-hops stout; fermented beer brewed from germinated and roasted barley and sugar; English beer having 4.0% alcohol by volume

porterhouse First steaks taken from the hip end of the short loin; contains a larger portion of the tenderloin muscle than the T-bone

See Part 2: Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Broiling Meat; Broiling Time and Temperature; Meat Identification; Portion Size

port glass

1 port glass = 2 oz

portion control cuts Meat cut to specified weights and/or thicknesses

portmanteau steak A thick pocket (cut in the side) steak filled with oysters

Porto Rico A moist, sweet variety of sweet potato

port salut A pale yellow, semisoft, buttery textured cheese with orange and brown wrapping and distinctive flavor

Portugal cabbage *See* braganza; couve tronchuda

Portuguese

Food habits:

Animal products—meat for flavor, fish, sausage

Seasoning—allspice, mace, pepper

Vegetables—cooked greens

Portuguese brandy A high-alcohol spirit distilled from port

posip A white wine

positive balance Intake of more material (e.g., nitrogen, calcium, or phosphorus) than is excreted; normal during pregnancy and muscle building

posset A mixture of milk, ale, molasses, or wine

post- A prefix meaning after or behind

post-emergence treatment Treatment after the plant shows above the soil

posterior *See dorsal (back)*; in comparative anatomy *See caudal (tail)*

posterior pituitary *See pituitary gland*

postmortem After death or slaughter
See Part 2: pH, Post Mortem

postpartum After birth of young

post-process handling Conditions to which containers are exposed after sterilizing

Post Toasties A tradename for a ready-to-eat cereal; 5% sugar

postup A red wine

pot *See cottage cheese*

potable Drinkable, e.g., potable water, pure enough to drink

potage A thick soup

potash Potassium carbonate, sulfate, or hydroxide
See also potassium
See Part 2: Fertilizer Materials

potassium (K from kalium) An alkali metal element; at. no. 19; at. wt. 39.100; Group IA of Periodic Table; oxidation state, +1
electron configuration 2-8-8-1
orbit K L M N

Body function: in all vegetable and animal cells and it is important along with sodium in water balance in the body

Sources: abundant in almost all plant and animal foods

See Part 2: Beans, Peas and Nuts; Dairy Products, Composition II; Egg Composition, II; Egg Products, Nutritive Value; Fat and Oils, Composition I; Fish and Shellfish Composition I; Fruit and Vegetables Composition; Fruit Composition, Part I; Grain Analysis; Grain Products Composition; Lemon Juice Composition; Macaroni and Noodles Composition; Manure Analysis; Meat Composition; Meat, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Normal Solutions; Nutrients in Crops; Olives and Pickles, Composition; pH and Availability of Plant Nutrients; Potassium; Potassium-Rich Foods; Poultry Composition; Soups Composition; Sugars and Sweets Composition; Tomato and Tomato Products, Composition; Vegetable Composition, Part I; Wastes, Agricultural and Industrial; Wheat, Minerals; Wheat Products Composition

potassium acid tartrate (cream of tartar; potassium bitartrate) $[\text{KOOCC}(\text{OH})\text{CH}(\text{OH})\text{COOH}]$
Used as a food acid or buffer
Storage: tight container

potassium alginate (algin) A potassium salt of alginic acid; equivalent weight 214-238; used as a food thickener, general purpose food stabilizer, and emulsifier
Storage: tight container
See algin

potassium alum *See aluminum potassium sulfate*

potassium bicarbonate (KHCO_3) Comprised of 38.6% potassium; used in food as an alkali or leavening agent; used in low sodium diets; imparts a bitter flavor; a substitute for sodium carbonate in baking soda

Storage: tight container

See Part 2: Normal Solutions

potassium bisulfite (KHSO_3) Used as a preservative in foods (except meats) *See also sulfur dioxide*

potassium bromate (KBrO_3) Used in food as a dough conditioner, maturing agent, and bleaching agent

Storage: tight container

potassium bromide (KBr) Colorless or white powder used as a preservative and used to wash vegetables and fruit

potassium carbonate (K_2CO_3) A general-purpose food additive used as an alkali
Storage: tight container
See Part 2: Normal Solutions

potassium carbonate solution Usually 50% (weight in weight); used as a food alkali
Storage: tight container

potassium caseinate A potassium salt of casein; used as a texture modifier

potassium chloride (KCl) Used as a nutrient and dietary supplement; also used in food as a salt substitute in low-sodium foods, gelling agent, and yeast food in brewing
Storage: well-closed container

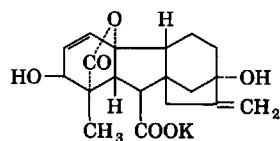
See Part 2: Fertilizer Materials; Normal Solutions

potassium citrate $(\text{C}_6\text{H}_5\text{K}_3\text{O}_7 \cdot \text{H}_2\text{O})$ A clear or white odorless powder; used in food as a general purpose additive, buffer, and sequestrant
Storage: tight container

potassium cyanide (KCN) A poisonous compound used as insecticide and fumigant
See Part 2: Normal Solutions

potassium dichloroisocyanurate $[\text{Cl}_2\text{K}(\text{NCO})_3]$
Used as sanitizer in dishwashing compounds, etc.
See Part 2: Chlorine Availability; Sanitizers

potassium gibberellate

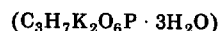


Used as a food, enzyme activator

Storage: tight container in a dark place

potassium glutamate *See monopotassium glutamate*

potassium glycerophosphate



Commercial concentrations available from 50-75%; used as a food nutrient or dietary supplement

Storage: tight container

potassium hydrogen tartrate See Part 2: Reagents, Normal Solutions

potassium hydroxide (caustic potash) (KOH) A food additive and bleaching agent; used as a food alkali

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Normal Solutions

potassium iodate (KIO₃) Used as a food maturing agent or dough conditioner

Storage: tight container

potassium iodide (KI) A source of iodine; used as a food nutrient or dietary food supplement; added (0.01%) to salt to improve nutritional value
Composition: dry matter 100%; potassium 21%; iodine 68.2%

Storage: tight container

potassium magnesium sulfate (K₂SO₄ · 2MgSO₄)

Used as a fertilizer ingredient

See Part 2: Fertilizer Materials

potassium metabisulfite (potassium pyrosulfite) (K₂S₂O₅) Used as sanitizer, food preservative, and/or antioxidant

Storage: full, tight container in a cool place

See also sulfur dioxide

potassium metaphosphate (KPO₃) A fertilizer material 0-58-35

potassium nitrate (niter; saltpeter) (KNO₃) Used as a food preservative, in meat curing, and as fertilizer ingredient

Storage: tight container

See Part 2: Fertilizer Materials; Nitrate, Meat Curing

potassium nitrite (KNO₂) Used in meat curing

Storage: tight container

See Part 2: Nitrate, Meat Curing

potassium oxide (K₂O) A chemical reagent and intermediate

See Part 2: Normal Solutions

potassium permanganate (KMnO₄) An oxidizing agent

Gram equivalent wt KMnO₄ (oxidizing agent in acidic solution) = 158/5 = 31.6 grams

Gram equivalent wt KMnO₄ (oxidizing agent in nonacidic solution) = 158/3 = 52.7 grams

See Part 2: Normal Solutions

potassium phosphate

Dibasic (dipotassium monophosphate; dipotassium phosphate)—K₂HPO₄; used as a food sequestrant, buffer, or yeast food

Storage: tight container

Monobasic (monopotassium phosphate; potassium biphosphate; potassium dihydrogen phosphate)—KH₂PO₄; used as a food sequestrant, buffer, or yeast food

Storage: tight container

Polymetaphosphate (potassium Kurrol's salt; potassium metaphosphate)—(KPO₃)_x; used as a moisture-retaining agent or fat emulsifier

Storage: tight container

Pyrophosphate (tetrapotassium pyrophosphate)—K₄P₂O₇; used as a food texturizer or emulsifier

Storage: tight container

Tribasic (tripotassium phosphate)—K₃PO₄; used as a food emulsifier

Storage: tight container

Triphosphosphate (pentapotassium triphosphosphate; potassium triphosphate)—K₅P₃O₁₀; used as a food texturizer

Storage: tight container

potassium propionate A food preservative See propionic acid

potassium sorbate



A white, powder, antimicrobial (mold and yeast), food preservative; a mold and yeast inhibitor and fungistat used in beverages, cakes, cheeses, fruit products, margarine, mayonnaise, processed meat, and syrups

Storage: tight container

potassium sulfate (K₂SO₄) A neutral fertilizer material; 0-0-48; a potassium fertilizer that can be used where chlorine is harmful

Storage: tight container

See Part 2: Fertilizer Materials

potassium sulfite (K₂SO₃) A sulfite salt; used as a food preservative or antioxidant

Storage: tight container

See also sulfur dioxide

potassium tartrate (K₂C₄H₄O₆)

See Part 2: Normal Solutions; Reagents, Normal Solutions

potato [(Irish or white); batata; papa; pomme de terre; *Solanum tuberosum*] Origin Central and South America; one of the most productive vegetables in terms of food unit per acre. A tuberous root eaten as a vegetable; a perennial herb with rhizomes that become swollen at the tip to produce the edible tubers. Classified according to maturity date and skin color (brown to white); seed $\frac{1}{2}$ bushel per 100 foot row; 60 lb/bu; seed 1500–2000 lb/acre; size of seed approx. 1½ oz; spacing 10 in. in rows 3 ft apart; 110–125 days to maturity (Irish); yield 3 bushels/100 foot rows; yield 15–17 tons/acre. Leave in field until vines are completely dead for best storage; if vines are killed (e.g., frost, etc.) the potatoes will shrink during storage; if the potatoes are dug when hot they are easily scalded and will not keep; slatted storage is needed for air circulation; if the storage temperature is too hot the potatoes will sweat; if potatoes are dug when green the skin will peel off, a wet product on cooking will be obtained, but the flavor will be good. Freezing point 28–30.9°F; new, intermediate, late maturity dates; round, long shape; brown, white, red, and russet skin color; over 2 in. to less than 1½ in. in size. Used as a cooked vegetable, for making chips, dehydrated potatoes, dextrose, flour, liquor, livestock feed and starch. Approximate nutrient used to grow:

	200 lb tubers	Tops
N (lb)	43	60
P ₂ O ₅ (lb)	17	10
K ₂ O (lb)	77	55

Varieties:

First Early

Arran Pilot—medium tuber; white flesh
 Bliss Triumph—round red tuber
 Di Vernon—white and purple flesh
 Early Ohio—oblong, pink tuber
 Early Rose—oblong, flattened, pink tuber; pink flesh
 Home Guard—medium tuber; white flesh
 Norland—oblong, smooth tuber; red flesh
 Ulster Chieftain—medium tuber
 Ulster Premier—white flesh
 Ulster Prince—kidney-shaped tuber; white flesh

Second Early

Anoka—round to oval tubers; white flesh
 Craigs Alliance—white flesh
 Craigs Royal—cream and pink flesh
 Great Scott—white flesh
 Irish Cobbler—round tubers; white flesh
 Maris Peer—oval tubers; cream flesh
 Norgold—oblong, russet tubers
 Ulster Dale—yellow flesh

Main Crop

Dr. McIntosh—kidney-shaped tubers; white skin
 Majestic—irregular tubers
 Red La Soda—oblong, red tubers
 Red Pontiac—oblong, red tubers; stores well
 Redskin—round to oval tubers; pink skin; lemon flesh
 Superior—tough skin; white flesh

Late Crop

Burbank—long cylindrical, slightly flattened tubers; used for baking
 Carmen—oblong, flattened, white tubers
 Gold Coin—oblong, flattened white tubers
 Golden Wonder—kidney-shaped, russet tubers
 Green Mountain—oblong, flattened, white tubers; all-purpose
 Katahdin—round, white tubers; keeps well
 Kennebec—susceptible to sunburn; white tubers
 Late Rose—oblong, flattened, pink tubers; pink flesh
 Million Dollar—oblong, flattened, white tubers; all-purpose
 Rural—round, flattened tubers; all-purpose
 Rural New York—oblong, flattened, white tubers; all-purpose
 Rural Russet—oblong, flattened, white tubers; all-purpose
 Russet Burbank (Netted Gem; Idaho Russet)—large, cylindrical tuber; used for baking and frying
 Sebago—round, white tuber

Type	Skin	Color	Use	Storage
New	Thin, feathery, can be rubbed off	Red or white	Boiling, frying, creaming, salads	1-2 weeks
Old	Dry, thicker		Baking, mashing	Much longer

Potato type	Description	Type of cooking	Variety	Color	Shape
Baking	Late	Baking	Russet Burbank most used (Netted Gem; Idaho Russet)	Russet	Long
General purpose	Round and long, available year around	Boiling, frying, baking	Chippewa	White	Round to oblong
			Katahdin	White	
			Kennebec	White	
			Russet Burbank (Netted Gem; Idaho Russet)	Russet	Long
New (Early)	Harvested January to September or freshly dug fall (September and October) potatoes that are not quite mature	Boiled Early Gem Irish Cobbler Norgold Russet	Sebago	White	Round
			Wansee	White	
			Anoka	White	Round to oval
				White blocky	Round to
				Lightly russet	Oval
			Norland	Red	Round
			Pontiac	Red	Round
			Red La Soda	Red	Round to oblong
			Superior	White	

Designations

Baking—Russet Burbank best known
 General purpose—boiling, frying, and baking
 Idaho—large; baking
 Long—mealy; baking and mashing
 New or early—freshly harvested during late winter or early spring or potatoes dug before they reach maturity; do not keep well
 Old—later, more mature crop; stores and ships well
 Round or intermediate—harder; waxier; boiling

Size	Minimum	Maximum
Small	1 $\frac{3}{4}$ in.	2 $\frac{1}{2}$ in. or 6 oz
Medium	2 $\frac{1}{4}$ in. or 5 oz	3 $\frac{1}{4}$ in. or 10 oz
Large	3 in. or 10 oz	4 $\frac{1}{4}$ in. or 16 oz
Not designated	1 $\frac{5}{8}$ in.	No maximum

16–20% parings as refuse

Equivalents:

1 barrel = 165 pound (lb)
 1 bushel = 60 lb
 1 bag = 50 lb
 100 lb, fresh = 23–25 lb, dried
 1 peck = 15 lb
 1 lb, fresh = 2–4 servings
 = 3 small baking potatoes
 = 2 $\frac{1}{2}$ –3 cups, diced
 = 2 $\frac{1}{4}$ cups, cooked
 = 1.75 cups, mashed
 = 4–5 medium sized potatoes
 = 4 small, new potatoes
 1 lb, dried granules = 2 $\frac{1}{3}$ cups
 1 lb, dried granules = 10.5 cups, reconstituted
 16 ounces (oz), canned = 3–4 servings
 1 quart (qt), peeled and cubed
 = 4 medium potatoes
 1 qt, canned = 4–5 lb, new potatoes
 = 4–6 lb, fresh potatoes
 1 large potato = 0.5 lb
 1 large red potato = 0.4 lb
 1 medium potato = 0.25 to 0.3 pound
 = 0.7 to 1 cup, peeled and cubed
 = 0.5 cup, mashed
 = 1 serving
 1 small potato = 0.75 cup, peeled and cubed
 1 small new potato = 2 oz
 1 cup, peeled and cubed = 0.9 medium size potato
 1 cup, raw, chopped = 5.2 oz
 1 cup, raw, diced = 5.5 oz
 1 cup, raw, slices = 5.2 oz
 1 cup, boiled, diced = 5.6 oz
 1 cup, boiled, mashed = 7.4 oz
 1 cup, boiled, riced = 8 oz
 1 cup, boiled, sliced = 5.6 oz
 1 cup, hash brown = 6.8 oz
 2 $\times \frac{1}{2} \times \frac{1}{2}$ in., French fried = 0.2 oz
 1 cup, dehydrated = 1.6 oz
 1 cup, granules = 7 oz
 1 cup, dried granules, reconstituted
 = 210 g (7.5 oz)
 1 serving = 0.4–0.5 lb

Properties:

Floury—use for baking and mashing
 Slightly waxy—use for chips and roasting

Very waxy—use for salads

Color:

green—caused by exposure to natural or artificial light; green color contains the alkaloid solanin, which is bitter and may be poisonous to some people
 red
 russet—brownish, rough, scaly, or netted
 white—white to buff

Shape: long to round

Types:

New—not a particular kind; they come from field to market and are not stored; they are not mature

Round and long white—slightly mealy and used for boiling, baking, mashing, and frying or all purpose

Round red—waxy; good for boiling

Russet—long, reddish brown; good for baking; mealy and fall apart when boiled

Cooking: Cover in water after paring to prevent darkening

Baking—400°F for 45 min or until soft

Boiling—diced potato, 20 min; whole potato, 30 min

Frying: 370°F

Canned styles:

Cut

Diced

French fried shoe strings—crisp throughout

Sliced—crisp throughout

Whole

Frozen styles (many sizes and shapes):

Fried—diced, patties, puffs, sliced, strips (moderately crisp on surface)

Unfried—diced, ready to cook patties, shredded, sliced, whole

Composition	Cooked	Dried	Raw, fresh
Moisture (%)		7	77–80
Protein (%)		7	2–2.2
Fat (%)		0.7	0.1
Carbohydrate (%)		82	17–18
Fiber (%)	3.4		0.6
Ash (%)		3	1–1.1
pH			5.5–6

Storage: 50–75°F; dark and humid; well ventilated (85–90% relative humidity); cool room (early crop 50–55°F; late crop 38–50°F); use within 1–4 weeks; if too cold, starch will turn to sugar that will darken on cooking; if too hot the potato will sprout and shrivel; if exposed to light or sunburned they will turn green (undesirable) and be bitter; pits and cold cellars are often used; freezing point 28°F

See vegetable grade

See Part 2: Ascorbic Acid; Calcium, Daily Recommendations; Calories, Daily Recommendations; Canned Spoilage Related to pH; Food, Composition; Fruit and Vegetables Composition; Fruit and Vegetables, Disease; Frying Time; Iron; Iron, Daily Recommendations; Microwave Cooking, Fresh Vegetables; Microwave Processing Time; Minerals, Food; Niacin; Niacin, Daily Recommendations; Nicotinic Acid, Food; Nutrients in Crops; Pectin Content; Phosphorus; pH

Values of Biological Materials; Plant Foods, Composition; Planting Density; Poisonous Plants; Portion Size; Potassium; Riboflavin; Riboflavin, Food; Starches and Starchy Roots Composition; Standards, Processed Fruit and Vegetable Products; Starch, Microappearance; Storage; Storage, Dry; Storage Times; Sugar, Vegetables; Sweet Potato and Irish Potato; Thiamin; Thiamin, Daily Recommendations; Thiamin, Food; Transit Temperature; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetable Servings; Vegetable Storage; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields; Vitamin A, Food; Vitamin C

potato aphid (*Macrosiphum euphorbiae*) A green and pink aphid that also damages spinach in the fall

potato apple (gadelles) The small (berry size), purple fruit (seed pod) of the potato plant; eaten raw or as a marmalade

potato bean See yam bean

potato beetle See Part 2: Insect Control

potato blight A disease of potatoes caused by fungus *Phytophthora infestans* in which the leaves have a moist, black blotch and the tuber decays; caused the Irish famine in 1845-1847

potato bread White bread in which some of the flour is replaced by boiled and mashed potatoes or potato flour

Potato Center (Centro Internacional de la Papa; CIP) An agricultural research center located in Peru; Part of the Consultative Group for International Agricultural Research (CGIAR)

potato cheese A German cheese made from cow's (sometimes sheep's or goat's) milk and containing caraway seeds

potato chip Thin slices of deep fat-fried (350-390°F) potato; cooking oil is often peanut or cottonseed; moisture 3% max; fat absorption during cooking 32-40%

1 cup, crushed potato chips

= 2.6 cups uncrushed potato chips

= 2 ounces

1 serving = 1 ounce

Ten, $1\frac{3}{4} \times 2\frac{1}{2}$ in. chips = 115 calories

Composition: moisture 2%; protein 5%; fat 40%; carbohydrate 50%; ash 3%; sodium 200 mg/10 chips (20 g)

Defect action level: 6% chips show rot

See Part 2: Calories, Daily Recommendations; Vegetable Composition

potato, cream of, canned soup

Composition	Condensed	Condensed, prepared with milk	Condensed, prepared with water
Moisture (%)	85.4	86.7	92.5
Protein (%)	1.4	2.3	0.7
Fat (%)	1.9	2.6	1.0
Carbohydrate (%)	9.1	6.9	4.7
Ash (%)	2.2	1.5	1.1

potato, dehydrated To rehydrate add 22 pounds of dry potatoes to 74 pounds water

potato eelworm A microscopic pest that attack potatoes and some weeds; it forms brown cysts and causes plants to be dwarfed

potato flake Potatoes cooked by low-pressure steam, then pulped and the moisture is removed by heated drums to produce a film of crisp potatoes; reconstituted with milk and water

potato flour A fine powder made from cooked potatoes that have been dried and ground; used for thickening or mixed with wheat or rye flour for potato bread

Composition: moisture 8%; protein 8%; fat 1%; carbohydrate 80%; ash 4%

potato glucose (dextrose) agar Yeast and mold count agar

See Part 2: Microbiological Examination of Dairy Products; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

potato grades (USDA) U.S. Fancy; No. 1; U.S. Commercial

potato infusion agar See Part 2: Microorganism, Media

potato maltose agar See Part 2: Microorganism, Media

potato mint See spearmint

potato, new (early crop) Young immature potatoes with very thin skins and poor keeping quality

potato peeling 1) Mechanical (abrasive); 20-35% loss. 2) Flame, 2000°F for 30 sec. 3) Lye or caustic soda solution. 4) Steam. 5) Boiling in saturated salt brine

potato powder Pulverized potato flakes

potato ring (Swedish style potato ring) A cooked or uncooked Swedish sausage made from 65% meat (beef or pork) and 20% potatoes

potato salad

Ingredients: mayonnaise, onion, parsley, pimiento, potatoes, spices

1 cup = 8.8 ounces

See Part 2: Vegetable Composition, Part I

potato sausage A medium to coarsely chopped, uncooked, unsmoked, American sausage available as large diameter links or ring sausage; a raw or cooked, Scandinavian sausage generally made from potatoes (30-39%, fresh), meat (beef and/or pork, minimum 45% fresh), vegetables (onions and parsley), and stuffed into a natural casing

potato scab A fungus that produces raised, rusty scabs on tubers without effecting quality

potato skin Clean potatoes are baked and the potato is scooped out leaving a $\frac{1}{4}$ -in. thick shell

potato starch (farina) A carbohydrate derived from potato and used as a stabilizing agent; potatoes are ground to a pulp and the fiber is removed by washing

potato, sweet (*Ipomoea batatas*) A tuberous root eaten as a vegetable; spacing, 6–12 inches in rows $3\frac{1}{2}$ feet apart; 140 days, average growth period; curing, 5–8 days at 85°F and 90% relative humidity; 50 pounds per bushel, green; 47 pounds per bushel, cured

Equivalents:

2–3 pounds (lb), fresh = 1 quart (qt), canned

1 pound, (lb) fresh = 3–4 servings

= 3 medium sized potatoes

1 large sweet potato = 1 lb

= 1.5 cup, peeled and sliced

1 medium sweet potato = 0.6 lb

= 1.3 cups, raw shredded

= 1.3 cups, julienne strips

1 cup, cooked and mashed

= 0.75–1.3 medium potatoes

Composition: edible energy value 0.48 megajoules per kilogram; protein 1.6%; pH 5.3; freezing point 29.7°F

Storage: cool room, 55–60°F (not below 50°F), moderately dry for several months (at room temperature, will only keep 1 week)

See sweet potato

See Part 2: Sweet Potato Composition; Sweet Potato Forms; Sweet Potato Nutritive Value; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Yields

potato, yellow Finnish A delicate moist potato with a pale yellow skin

pot au feu A rich meat and vegetable soup

pot-bellied A large abdomen

pot cheese See **cottage cheese; farmer's cheese**

poteen Whiskey distilled from fermented malted barley, mixed with oats, rye, or wheat

potential Volts are the unit of measurement of electrical potential.

potential food demand The quantity of food that would be sold in a given market during a unit period of time if existing restraints were not a consideration

potentiator A substance that imparts flavor to a food product to a much greater extent than an enhancer; effective in concentrations of parts per billion, compared with parts per thousand for enhancers. The so-called 5'-nucleotides, e.g., riboflavin 5'-phosphate, are typical potentiators.

potheen Irish moonshine; often made from potatoes

pot herb Any herb that is used in cooking See **greens**

pot liquor The juices obtained when meat and vegetables are cooked together; the broth from boiling meat

Potomac A variety of orchard grass

pot pie A deep-dish pie made from meat or poultry and vegetables; may have one crust (topped with dumplings) or two crusts

See Part 2: Meat Composition

pot pourri A mixture of seasoned meat

pot roast A meat (usually beef) cooked by braising (a method of slow cooking for less-tender cuts) See also **braise**

See Part 2: Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Braising Meat; Braising Time; Meat Composition

pot roast pork See **kow yuk**

potted cheese (club cheese) A cheese made from ripe cheddar, butter, seasoning, spirits, etc. See **cold-pack cheese**

potted meat (deviled meat) 1) Finely ground, spiced, cooked fresh meat that is canned with or without cereal; meat, poultry, or game in paste form; meat that has been cooked, pounded, and preserved in containers. 2) A fine- to medium-chopped, cooked, unsmoked, American sausage that is canned sterile or shelf-stable

potted meat food A fine- to medium-chopped, cooked, unsmoked, American sausage that is canned sterile or shelf-stable

pouch 1) A bag or sack. 2) A saclike organ

pouchki (pyshki) A square, fried pie made from wheat-flour dough filled with cheese, fish, meat, or fruit

pouchong A scented oolong tea from Formosa; made by combining tea leaves with flowers of jasmine, gardenia, and yulan (magnolia family)

pouch package A flexible container made from film or a combination of film, paper, and foil

pouilly fuisse A dry white wine

pouilly fumé A smokey, dry, sharp, fruity, white wine

poukou A sorghum beer

poulet A chicken less than 3 months old

pouliny-saint pierre A pyramid-shaped, soft cheese made from goat's milk; sometimes wrapped in leaves

poult Young turkey

poultry Domesticated birds raised for their food value (eggs and meat), including chickens, ducks, geese, guinea, fowl, squab, turkeys, and sometimes domestically raised game birds (pheasant and quail). The term applies to any such bird, whether live or dead. Dark meat has four times as much fat as light meat. Styles:

Ready to cook (RTC), with giblets and neck inside the body cavity

RTC halves

RTC quarters

RTC cut-up carcass—less the back, neck, and giblets; remainder is same proportion as carcass

RTC parts

Types:

Fresh—chilled but not frozen

Frozen less than 60 days

Frozen more than 60 days

Special frozen

Cooked temperature 180–185°F

Yield: edible portion 55%; bone and inedible parts 12%; loss in dressing and drawing 33%

Storage (meat): Coldest part of refrigerator (32°F); use within 1–4 days; frozen (–10°F) storage life 6 months See **chicken; duck; goose; turkey**

See Part 2: Animal Foods, Composition; Bacteria on Chickens at Various Holding Temperatures; Bone; Bone Age; Calories, Daily Recommendations; Egg Incubation Periods; Frozen Food Storage; Glutamate; Meat and Meat Products, Composition; Meat, Frozen Storage; Meat, Servings per Pound; Microwave Processing Time; Molds, Mycotoxins; Niacin, Daily Recommendations; pH, Post Mortem; Portion Size; Poultry Breeds and Varieties; Poultry Class; Poultry Composition; Poultry Cooking, Frozen; Poultry Dressing Percentage; Poultry Grade Stamp; Poultry Inspection and Grade Stamp; Poultry Inspection Stamp; Poultry Roasting; Poultry Yield; Riboflavin, Daily Recommendations; Specific Heat, Meat; Storage Times; Tenderness of Poultry; Thiamin, Daily Recommendations

poultry back Includes the pelvic bones and all the vertebrae posterior to the shoulder joint; the meat shall not be peeled from the pelvic bones; the vertebral ribs and/or scapulae may be removed or included without affecting the appropriateness of the name; the skin shall be substantially intact.

poultry breast quarter Consists of half of a breast with the wing and a portion of the back attached

poultry breast quarter without wing Consists of a front quarter of a poultry carcass, from which the wing has been removed

poultry by-product meal Dry-rendered, ground tissue of poultry exclusive of feathers, gizzard, and intestinal contents.

Composition	By-product* (rendered)	Feathers (hydrolyzed)
Dry matter (%)	93	93
Protein (%)	59	85
Fat (%)	13	2.9
Fiber (%)	2.3	1.4
Ash (%)	16	3.5

*Viscera, feet, and head

poultry dressing percentage

$$\text{dressing percentage} = \frac{\text{ready-to-cook weight}}{\text{live weight}}$$

Broiler-fryers—70%

Hens—74%

Turkey fryers—74%

Turkey hens and toms

Large—80%

Small—76%

poultry fat Composition: dry matter 99%; fat 99.1% (linoleic acid 20%; oleic acid 40%; saturated 30%)

poultry giblets The gizzard, heart, liver, etc., of a chicken or other poultry, usually chopped and added to gravy after long boiling *See also* **giblet**

Storage: Remove from bag and rewrap; place in coldest part of refrigerator; use within 1–2 days.

poultry grades US Grade A; US Grade B; US Grade C

poultry halves Prepared by making a full-length back and breast split of an eviscerated poultry carcass so as to produce approximately equal right and left sides

poultry in sausage Chicken and turkey may be added to a maximum of 15% of comminuted cooked product (excluding water) without using a poultry name. If poultry is used in the name of the product, there is no limit to the quantity used, but must be declared in ingredients; the ratio of poultry skin to muscle must be in same proportions as in the whole bird; kidney and sex glands cannot be included. All-meat product must have the poultry skin removed. All-beef product can contain no poultry.

poultry leg Includes the thigh and the drumstick (i.e., the whole leg) and may include the pelvic meat, but not the pelvic bones; back skin is not included.

poultry leg quarter A poultry thigh and drumstick, with a portion of the back attached

poultry leg with pelvic bone A poultry leg with adhering meat and skin and pelvic bone

poultry manure A slow-release fertilizer; should be composted before use

poultry neck The neck, with or without skin, separated from the carcass at the shoulder joint

poultry quarter One portion of an entire eviscerated poultry carcass, excluding the neck, that has been cut into four approximately equal parts

poultry seasoning (poultry spice) A mixture of spices; frequently used combination is white pepper (35%), sage (15%), ginger (10%), marjoram (10%), savory (10%), thyme (10%), allspice (5%), nutmeg (5%), and sometimes rosemary

Composition: moisture 9–10%; protein 9–10%; fat 7–8%; carbohydrate 65–66%; fiber 11–12%; ash 5–6%

poultry spice *See* **poultry seasoning**

poultry stripped back Includes the vertebrae from the shoulder joint to the tail and includes the pelvic bones; the meat may be stripped from the pelvic bones

poultry thigh Shall be disjointed at the hip joint and may include the pelvic meat but does not include the pelvic bones; back skin is not included.

poultry thigh with back portion The same as a poultry thigh but with back portion attached

poultry wing portion A poultry wing from which the drummette has been removed

pound [apothecary's (apoth.)] A measure of weight; the same as a troy pound

pound [avoirdupois (avdp.; US or Brit.)] A measure of weight

1 lb (avdp.)

= 45359×10^5 milligrams (mg)

= 4.448×10^5 dynes (dyn)

= 7000 grains (gr)

= 453.5924277 grams (g)

= 350 scruples [3; apothecary's (apoth.)]

= 291.6667 pennyweight (dwt)

= 256.00 drams (avdp.)

= 116.6667 drams (troy or apoth.)

- 1 lb (avdp.) (continued)
 - = 32.17 poundals
 - = 16 ounces [oz (avdp.)]
 - = 14.583333 ounces (oz (troy or apoth.))
 - = 4.448 joules per meter [J/m; 1 J/m = 1 newton (N)]
 - = approximately 2 cups of liquid
 - = 1.2152778 lb (troy or apoth.)
 - = 0.45359 kilogram (kg)
 - = 0.04448 joules per centimeter (J/cm)
 - = 0.00454 quintal
 - = 0.00050 net (short) ton (1 short ton = 2000 lb)
 - = 0.0004536 metric ton (1 metric ton = 1000 kg)
 - = 0.0004464 gross (long) ton (1 long ton = 2240 lb)
- 1 lb water = 27.648 cubic inches (in.³)
 - = 0.4534 liter (l)
 - = 0.1198 gallon (gal; US)
 - = 0.01602 cubic foot (ft³)

See Part 2: Weight

pound [troy (US or Brit.)] A measure of weight used for weighing gold, silver, and jewels [same as an apothecary's (apoth.) pound]

- 1 lb (troy)
 - = 37324×10^5 milligrams (mg)
 - = 5760 grains (gr)
 - = 373.24177 grams (g)
 - = 288 scruples (℥; apoth.)
 - = 240 pennyweight (dwt; troy)
 - = 210.6514 drams (avdp.)
 - = 96 drams (troy or apoth.)
 - = 13.165714 ounces (oz; avdp.)
 - = 12 ounces (oz; troy or apoth.)
 - = 0.8228571 pounds (lb; avdp.)
 - = 0.37324 kilogram (kg)
 - = 0.0004114 net (short) ton (1 short ton = 2000 lb)
 - = 0.0003732 metric ton (1 metric ton = 1000 kg)
 - = 0.0003674 gross (long) ton (1 long ton = 2240 lb)

poundal A measure of weight

- 1 poundal = 13826 dynes (dyn)
 - = 14.1 grams (g)
 - = 0.1383 joule per meter (J/m)
 - = 0.3108 pound (lb)
 - = 0.0141 kilogram (kg)
 - = 0.001383 joule per centimeter (J/cm)

pound cake A cake consisting of one pound each of butter, flour, sugar, and whole eggs; leavened by steam

Types (all with or without icing): marble; old-fashioned; plain; raisin; silver

One $3\frac{1}{2} \times 3 \times \frac{1}{2}$ -in. slice of old-fashioned pound cake contains 140 calories.

Sodium content: 171 mg/ $\frac{1}{12}$ cake (55 g)

See Part 2: Baked Products, Frozen Storage Life

pound-foot (lb-ft) A measure of work

- 1 lb-ft = 1.356×10^7 centimeter-dynes (cm-dyn)
 - = 13.825 centimeter-grams (cm-g)
 - = 0.1383 meter-kilogram (m-kg)

pound of water (lb water) See **pound (avoirdupois)**

pound of water per minute (lb water/min) A measure of the rate of flow

- 1 lb water/min
 - = 2.670×10^{-4} cubic feet per second (ft³/s)

pound (avdp.) per acre (lb/acre) Weight per unit area

- 1 lb (avdp.)/acre
 - = 1.121 kilograms per hectare (kg/ha)

pound per bushel [lb/bu (US)] A measure of density—specific weights

- 1 lb/bu
 - = 21.6962 pounds per cubic yard (lb/yd³)
 - = 12.8718 kilograms per cubic meter (kg/m³)
 - = 0.80356 pound per cubic foot (lb/ft³)
 - = 0.125 pound per gallon, dry (lb/gal; US)
 - = 0.10742 pound per gallon, liquid (lb/gal; US)
 - = 0.01287 gram per cubic centimeter (g/cm³)
 - = 0.0004650 pound per cubic inch (lb/in.³)

pound per cubic foot (lb/ft³) A measure of density

- 1 lb/ft³
 - = 27 pounds per cubic yard (lb/yd³)
 - = 16.0184 kilograms per cubic meter (kg/m³)
 - = 1.24446 pounds per bushel (lb/bu; US)
 - = 0.15556 pound per gallon, dry (lb/gal; US)
 - = 0.13368 pound per gallon, liquid (lb/gal; US)
 - = 0.01602 gram per cubic centimeter (g/cm³)
 - = 0.0005787 pound per cubic inch (lb/in.³)

pound per cubic inch (lb/in.³) A measure of density

- 1 lb/in.³
 - = 46,656 pounds per cubic yard (lb/yd³)
 - = 27,679.7 kilograms per cubic meter (kg/m³)
 - = 2150.42 pounds per bushel (lb/bu; US)
 - = 1728 pounds per cubic foot (lb/ft³)
 - = 268.803 pounds per gallon, dry (lb/gal; US)
 - = 231 pounds per gallon, liquid (lb/gal; US)
 - = 27.6797 grams per cubic centimeter (g/cm³)

pound per cubic yard (lb/yd³) A measure of density

- 1 lb/yd³
 - = 0.59327 kilograms per cubic meter (kg/m³)
 - = 0.04609 pound per bushel (lb/bu; US)
 - = 0.03704 pound per cubic foot (lb/ft³)
 - = 0.005762 pound per gallon, dry (lb/gal; US)
 - = 0.004951 pound per gallon, liquid (lb/gal; US)
 - = 0.0005933 gram per cubic centimeter (g/cm³)
 - = 0.00002143 pound per cubic inch (lb/in.³)

pound per foot (lb/ft) Mass (weight) per length

- 1 lb/ft = 14.88 grams per centimeter (g/cm)
 - = 1.488 kilograms per meter (kg/m)

594 pound per gallon (lb / gal (dry; US))

pound per gallon (lb / gal (dry; US)) A measure of density—specific weights

1 lb/gal

- = 173.570 pounds per cubic yard (lb/yd³)
- = 102.974 kilograms per cubic meter (kg/m³)
- = 8 pounds per bushel (lb/bu; US)
- = 6.42851 pounds per cubic foot (lb/ft³)
- = 0.85937 pound per gallon, liquid (lb/gal; US)
- = 0.010297 gram per cubic centimeter (g/cm³)
- = 0.003720 pound per cubic inch (lb/in.³)

pound per gallon (lb/gal (liquid; US)) A measure of density

1 lb/gal

- = 201.974 pounds per cubic yard (lb/yd³)
- = 119.826 kilograms per cubic meter (kg/m³)
- = 9.30920 pound per bushel (lb/bu; US)
- = 7.48052 pound per cubic foot (lb/ft³)
- = 1.16365 pound per gallon, dry (lb/gal; US)
- = 0.11983 gram per cubic centimeter (g/cm³)
- = 0.004329 pound per cubic inch (lb/in.³)

pound per inch Mass (weight) per length

1 lb/in. = 178.6 grams per centimeter (g/cm)

pound per square foot (lb/ft²; psf) A measure of pressure

1 lb/ft²

- = 4.882 kilograms per square meter (kg/m²)
- = 0.35911 millimeter of mercury [mm Hg (column of mercury, sp. gr. 13.59593)]
- = 0.01602 foot of water [ft H₂O; column of water, max. density at 4°C (39°F)]
- = 0.01414 inch of mercury (in. Hg)
- = 0.006944 pound per square inch [lb/in.² (also psi)]
- = 0.004882 meter of water (m H₂O)
- = 0.0004882 kilogram per square centimeter (kg/cm²)
- = 0.0004725 atmosphere (atm; 1 standard atmosphere = 760 mm Hg)

pound per square inch (lb/in.²; psi) A measure of pressure

1 lb/in.²

- = 703.1 kilograms per square meter (kg/m²)
- = 144 pounds per square foot (lb/ft²; also psf)
- = 51.7116 millimeters of mercury (mm Hg; column of Hg, sp. gr. 13.59593)
- = 27.7354 inches of water (in. H₂O)
- = 2.30665 feet of water [ft H₂O; column of water, max. density at 4°C (39°F)]
- = 2.03588 inches of mercury (in. Hg)
- = 0.70307 meter of water (m H₂O)
- = 0.072 short ton per square foot (ton/ft²)
- = 0.07031 kilogram per square centimeter (kg/cm²)
- = 0.06805 atmosphere (atm)

pourly A soft, new cheese made from goat's milk

pourriture noble A gray mold that attacks over-ripe grapes; it extracts water, which concentrates the

sugar; the remaining juice produces a very sweet wine. *See* **barsac**; **sauternes**

pousse café 1) A sweet, dark, after-dinner cordial. 2) A brandy or liqueur served with black coffee. 3) After-dinner-type liquors

poutassou [*Gadus (Micromesistius) poutassou*] A food fish

powan (*Coregonus lavaretus*) A food fish

powdered cream Dried cream
19 lb milk = 1 lb powdered cream

powdered grapefruit mix A dehydrated grapefruit juice (simulated or diluted) product; the amount of juice (if any) must be stated on the label.

powdered milk Dried milk
7.6 lb milk = 1 lb powdered milk
 $\frac{1}{4}$ cup powdered whole milk + 1 cup water = 1 cup milk

powdered orange mix A dehydrated orange juice (simulated or diluted) product; the amount of juice (if any) must be stated on the label.

powdered sugar Pulverized (crushed and screened) granulated sugar
2X—coarse
4X—fine powder
6X—very fine powder
10X—ultrafine powder
Sift before measuring

powdery mildew 1) A fungal disease of American bunch grapes; may be controlled by the use of folpet or fungicides on moderately susceptible varieties and by special sprays on very susceptible varieties. 2) A fungal (*Sphaerotheca macularis*) leaf disease of strawberries

Prevention: Do not plant strawberries in places that are shaded or that have poor air circulation.

3) A fungus (*Erysiphe graminis*) that grows on the leaves, sheaths, and heads of wheat *See* **mildew**, **powdery**

pow tsai Pickled cabbage and chili pepper

pox *See* **ring pox**; **soil rot**

pozol Balls (10–12 cm × 5–8 cm, 100–500 g) of fermented maize dough that are mixed with water to make porridge or a sour beverage

PP On behalf of

PPC Plasma protein concentration
See Part 2: Blood

PP factor *See* **niacin**

PPLO *See* Part 2: Microorganism, Media

ppm *See* **parts per million**

Pr The symbol for the element praseodymium

practical (pract.) A designation of a grade of chemical purity; a medium-purity grade that is suitable for most syntheses *See also* **grade**

practical top The next highest price paid below "top" when top is out of line with the day's market

Prague powder *See* **cure**

prahoc A fermented, yellow-brown, salty, fish-paste condiment

prairie Level to rolling, treeless land that is covered with grasses

prairie chicken (*Tympanuchus cupido*; *T. pallidicinctus*) An edible, grouse-type wild bird

prairie oyster 1) A mixture made from a raw egg, 1 tsp Worcestershire sauce, and brandy, sometimes with salt that is usually taken for a hangover. 2) A shelled, unbroken egg dropped into wine containing some vinegar

praline A burnt-almond or a brown-sugar and pecan candy; a vanilla- and pecan-based confection

praline sauce Made from the following ingredients:

- 1 cup coarsely chopped pecans
- 1 cup corn syrup
- $\frac{1}{2}$ cup sugar
- $\frac{1}{3}$ cup margarine
- 1 beaten egg
- 1 tbsp vanilla

praseodymium (Pr) A rare-earth element; at. no. 59; Group IIIB of the Periodic Table; at. wt. 140.92; oxidation state +3
electron configuration 2-8-18-20-9-2
orbit K L M N O P

prato A Gouda-type cheese

prattigau A soft to semisoft, strongly flavored, cheese made from partly skimmed cow's milk and ripened by surface bacteria

prawn (Norway lobster; scampi) A small (larger than a shrimp) saltwater crustacean of the shrimp family; a shellfish; 50% edible (avg. 20% protein)
Types:

- Banana (*Penaeus merguensis*)—caught in the Pacific
- Common (*Palaemon serratus*)—caught in the Atlantic and the Mediterranean
- Common tiger, Brown tiger (*Penaeus esculentus*)—caught in Asia and Australia
- Deepwater (*Pandalus borealis*)—caught in the North Atlantic and the Pacific
- Eastern Atlantic (*Penaeus kerathurus* and *Penaeus carinatus*)
- Eastern king (*Penaeus plebejus*)—caught in Australia
- Freshwater (*Macrobrachium carolinense*)—caught in North America
- Giant tiger, jumbo tiger (*Penaeus monodon*)—caught in Australia, Asia
- Grooved tiger (*Penaeus semisulcatus*)—caught in Australia
- Indian (*Penaeus indicus*)
- Kuruma (*Penaeus japonicus*)—caught in the Mediterranean, the Atlantic, and the Pacific
- Western king (*Penaeus latisulcatus*)—caught in Australia

See **Dublin bay prawn; shrimp**

prawn bilichow Pickled prawn

praying mantis A green predatory insect that has green wings with brown front edges, a large abdomen, a slender thorax, a wedge-shaped, movable head, and large front legs that have spines for grasping prey; the young resemble the adults but are wingless and feed on aphids and other small insects; the adults feed on many kinds of larger insects.

preacute Describes a disease that destroys an organism before clinical signs are seen

prebkopf A moist, cooked, unsmoked eastern German sausage made from medium- or coarse-chopped, medium-seasoned pork stuffed into pork or artificial casings

prebloom The last third of growth before blooming

precipitate 1) A substance deposited in solid form from a solution. 2) To separate heavy particles from a suspension by gravity

precipitated lime A liming material composed of 80–95% CaCO_3 ; each pound has the neutralizing equivalent of 0.85–1 lb CaCO_3 (or approximately this quantity of dolomitic limestone).

precipitation In serology, the aggregation of a soluble antigen by an antibody

preclusive specifications Specifications that restrict the number of bidders

preconditioning Preparing feeder calf for movement to a feedlot by early weaning, vaccination, etc.

precook To simmer for a short time preliminary to cooking; to cook a food before it is sold

precooked breakfast link (brown-and-serve) A medium- to coarse-chopped, cooked, unsmoked American sausage; available in small-diameter links, rolls for slicing, machine-formed, or extruded

precucral Near or in front of the thighs
See Part 2: Lymph Nodes, Ox, Lateral; Lymph Nodes, Pig; Lymph Nodes, Sheep

precursor A chemical compound that is converted into another by biological means or in the body; forerunner

predigested Describes a food that has been treated by processes or exposed to products that partially digest the food before eating

pre-emergence treatment A treatment that is applied after planting but before the plant shows above the soil

preference 1) A high degree of liking. 2) Choosing one above others. 3) A scale that is a continuum based on the degree of liking or disliking

pregelatinized starch Starch that has been cooked and dried; will form a paste with cold water

pregnancy Being with young; the time from conception to birth See also **gestation period**
See Part 2: Food, Water Intake

preheat To allow an oven or broiler to reach recommended temperature before cooking

prehension The intake of feed or water

pre malignant cell A cell that is intermediate between a normal and a tumor cell

premières côtes de Bordeaux 1) A medium-sweet white wine. 2) An area on the north bank of the Garonne River (in the Bordeaux region of southwestern France) that produces a medium-sweet white wine

premium The cost of an option agreed upon between buyer and seller and the premium paid by the option purchaser to the option seller; premiums for options are determined by supply and demand on the option, the price of the commodity, the length of time of the contract, interest rates or carrying charges, and the volatility of price movements of the commodity.

premix A mixture of one or more microingredients with a carrier

prenatal Before birth

prepackaging Packaging before sale

prepaid Describes transportation costs that have been or are to be paid at the point of shipment

prepectoral See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

prepencenica Brandy distilled from fermented grapes

preplanting treatment A treatment that is applied before a crop is planted

prepotency The unusual ability of an animal to produce young that resemble it more strongly than the other parent

prescapular See Part 2: Lymph Nodes, Ox, Lateral; Lymph Nodes, Pig; Lymph Nodes, Sheep

preschool child In federal regulations, defined as a child between the ages of 1 and 6-7

present A Gouda-type cheese

preservation Maintaining food in edible condition over long periods of time; prolonging the storage life of foods; may be accomplished by canning, freezing, pickling, drying, or making jellies, jams, or preserves See Part 2: Radiation Preservation

preservative A substance (natural or synthetic) that protects against spoilage, discoloration, or decay and that is used to retard or prevent microbial or chemical spoilage; used in food to prevent spoilage from bacteria, molds, fungi, and yeast, to extend shelf life, and to protect natural color or flavor; e.g., antimicrobial substances, fungicides, antioxidants, nitrates, nitrites, and sodium benzoate See **antioxidant**;
preservation

preserves 1) A fruit preserved in its original shape or cut into pieces and packed in a heavy syrup. 2) A semisolid product made by combining 45 parts of fruit with 55 parts of sugar and cooking until the final soluble solids content is 68% (65% for some fruits); a semisolid, jellied fruit spread that contains whole, sliced, or crushed (generally larger pieces than in jam) fruit that has been cooked until tender and transparent and then packed in jars

Classifications:

Pure goods—min. 45 lb fruit per 55 lb sugar

Compounds—min. 25 lb fruit per 55 lb sugar

Imitation—less than 25 lb fruit per 55 lb sugar

Storage: After opening, cover and refrigerate

See **jellied products**

preskop A moist, cooked, unsmoked Dutch sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into beef or artificial casings

preslaughter Before slaughter; ante-mortem

press To separate liquid from solids by weights or by mechanical pressure, e.g., in making cider and lard

pressato A fresh, soft, white to straw-colored cheese

press cake The residue remaining after pressing a material (e.g., to obtain oil); usually ground to make meal

Composition (fish press cake): moisture 60%; fat 4-5%

pressed 1) Compacted or molded by pressure. 2) Describes fat or oil that has been extracted under pressure

pressed cheese Cheese that has been placed in a cheese press, giving it a close texture See **farmer's cheese**

pressed ham A product that may contain finely chopped ham shank to the extent of 25% over that normally present in boneless ham; the weight of cured chopped ham may not exceed the weight of fresh uncured ham, exclusive of bone and fat removed, plus the weight of curing ingredients and 3% moisture.

pressed tablets See **candy**

pressure, water A measure of the force exerted by a volume of water

0.433 lb/in.^2 —force per square inch of the base of a column of water 1 ft high

1 lb/in.^2 —force per square inch of the base of a column of water 2.31 ft high

Feet of head (water) = $(2.31) \times \text{pressure (in pounds per square inch)}$

Pressure (in pounds per square inch) = $(0.433) \times (\text{feet of head of water})$

See Part 2: Steam, Properties; Temperatures Corresponding to Gauge Pressure at Various Altitudes

pressure cooker (autoclave) An airtight vessel used to cook by means of superheated water under pressure

Pounds of pressure	Temperature	
	°F	°C
0	212	100
5	228	109
10	240	116
15	250	121
20	259	126
25	267	131
30	274	135

See **autoclave**

pressure gauge 1) An absolute gauge reads total pressure, with zero pressure as its reference point (usually reads 14.7 lb/in.² higher than a relative pressure gauge). 2) A relative pressure gauge reads pressure in excess of atmospheric pressure.

pressure ridge The impression on the inside of a can opposite the double seam

presswater A fat-free, aqueous extract of meat or fish that is obtained by pressing the tissue and then separating the fat

presswurst 1) A moist, cooked, smoked, fine-, medium-, or coarse-chopped, mildly seasoned beef, pork, and veal stuffed into beef casings. 2) A moist, cooked, unsmoked, medium-chopped, mildly seasoned pork or veal, Australian sausage that is not stuffed into a casing

presternal See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

prestost (saaland pfarr) 1) Cheese mixed with aquavit (spirit). 2) A cheese made from cow's milk with rennet added. 3) A semihard cheese made from cow's milk (pasteurized mixed with unpasteurized)

pretzel (bretzel) A crisp, crusty, brittle snack food with a cracker and salt taste; its shape is a two-looped ring, a single ring, and thin or thick rods; they may be either hard or soft; the dough is made from water, wheat flour, and yeast; the pretzel is then made by shaping the dough and placing in boiling water containing soda (0.5% NaOH solution); the surface is then sprinkled with flake salt (sometimes with cumin or caraway seed), and the pretzel is baked.

1 cup, coarsely chopped = 3.2 oz

Composition: moisture 3.5–5%; protein 10%; fat 5%; carbohydrate 76%; ash 5%; salt 3–7%; sodium 101 mg/pretzel [(6 g) regular twist], 17 mg per 3 small sticks [(1 g) 735 mg/oz]

Calorie content:

1 Dutch pretzel, twisted = 60 calories

5 stick pretzels, regular size ($3\frac{1}{8}$ in. long) = 10 calories

10 stick pretzels, small ($2\frac{1}{4}$ in. long) = 10 calories

See Part 2: Fermented Ingredients; Grain Products, Composition

prevalence The number of instances of illness in a specific population without any distinction between new and old cases; the number of illnesses or of persons ill in a specific population

Point prevalence—at a stated moment

Period prevalence—during a given time period

prevented planting When a producer is unable to plant a crop in a field that he or she intended to because of wet weather at planting time or because of floods or other natural disaster

price The specific amount (in dollars and cents) paid for a given grade and weight selection

price protection An agreement between seller and buyer to grant the buyer any reduction in price (or avoidance of any price increase) that goes into effect prior to the shipment of goods

price supports A group of programs intended to keep farm prices from falling below specific minimum values

price trend The direction in which prices are moving compared with prices paid the previous trading session

Higher—bulk sale prices are measurably higher than the previous trading session.

Lower—bulk sale prices are measurably lower than the previous trading session.

Strong—there is a definite, but not quite measurable, indication of higher prices.

Weak—there is a definite, but not quite measurable, indication of lower prices.

Steady—prices have not changed from the previous trading session.

prick To make small holes in food or wrapping

prickly pear (barbary fig; barberry fig; cactus pear; Indian fig; Indian pear; tuna fig; Opuntia ficus-indica) The edible fruit of a variety of cactus that is pear-shaped (ranging from oval to round), 1 oz to 1 lb, with color from yellow to rose to purple, and with a spiny skin that is removed prior to eating; the skin is red when ripe and the flesh is red to yellow; the pulp contains many seeds and is sweet and juicy. The fruit is eaten raw, in salads, cooked, preserved, or pickled.

Composition (fresh): dry matter 17%; protein 0.8%; fiber 2.3%; fat 0.3%; ash 3.4%

Contains a fair amount of vitamin A and C

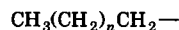
prickly West Indian custard apple See custard apple

priest's crown See dandelion

primal cuts (beef) The major, or wholesale, cuts from a beef carcass: brisket, chuck (shoulder), flank, loin, plate, rib, round, and shank

primal cuts (hog carcass) Belly, Boston butt, ham, loin, and picnic; 43–55% of live hog weight

primary 1) Having constant composition and high purity. 2) Principal. 3) A carbon atom that is united by a single valence to chain or ring,



primary muscle fiber bundles Bundles made up of muscle fibers bound together by perimysium

primary root See Part 2: Corn Kernel; Wheat Kernel; Wheat Kernel Parts

primary standards (Pri. Std.) A designation of a grade of chemical purity; this is the highest grade of purity and can be used for direct preparation of standard solutions. See also grade

prime Usual meaning is first, or highest, quality See Part 2: Casings, Hog Bungs; Grades, Meat; Lamb Quality Guide; Meat Grade Stamps

prime rib A name sometimes (incorrectly) used for a beef rib roast of any grade

prime-steam lard Lard rendered in a closed container with steam

primocane Cane produced during the current season

primost A mysost-type cheese made from cow's or goat's milk

primost cheese See mysost cheese; primost See Part 2: Cheese Characteristics

primrose A flower; used in salads and to flavor pies

primula cheese A processed cheese made from caramelized whey

prince's plume A plant having a toxic principle See Part 2: Poisonous Plants

598 principal display panel

principal display panel The area of a label where the food's name appears; the surface of a package that by either typography, design, or general trade practice is customarily displayed to the consumer

prinskorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned beef and pork stuffed into sheep casings; three pieces are then knitted together.

print A size of cheese weighing approximately 10 lb

printanier A vegetable soup made with chicken and beef broth and with vegetables cut into fancy shapes; often served jelled

Pri. Std. See **primary standards**

pritch stick A stick that is sharp on both ends, used to hold a beef carcass on its back while removing the hide; one end is secured in the floor (corrugated plate) and the other end in the brisket.

Prizehead lettuce A lettuce variety that has green leaves tinged with a reddish bronze color

pro- A prefix used to indicate before

probability The likelihood of an event taking place:

$$\text{probability of event } a = \frac{a}{a + b}$$

a = the number of ways event "a" can occur

b = the number of ways event "b" can occur

The probability (P) of two independent events occurring simultaneously is

$$P = q \times r$$

q = probability of first event

r = probability of second event

The probability (P) that two mutually exclusive (i.e., if one happens, the other cannot happen) events will occur is

$$P = q + r$$

q = probability of first event

r = probability of second event

The probability that an event will occur r times in n trials is

$$P = \frac{n(n-1)(n-2) \cdots (n-r+1)p^r(1-p)^{n-r}}{r!}$$

p = probability of the event occurring on a single trial (e.g., the p = probability of success)

$1 - p$ = probability of failure

See Part 2: Defectives in Lot; Normal Curve; Paired Comparisons; Paired Taste Tests; Taste Panel, Difference Tests; Triangular Taste Test + Preference; Triangular Taste Test Probability

probable error (r ; R) A method of expressing error for a single observation and an average of a series of observations such that the number of errors greater

than the probable error is equal to the number of errors less than the probable error; the probable error (r) of a single observation is

$$r = \pm 0.6745 \sqrt{\frac{\Sigma(V^2)}{n-1}}$$

$\Sigma(V^2)$ = sum of squares of deviation from the average

n = the number of observations

The probable error (R) of an average of measurements is

$$R = \pm 0.6745 \sqrt{\frac{\Sigma(V^2)}{n(n-1)}}$$

Probable error = $0.6745 \times$ (mean square error)

Probable error = $0.8453 \times$ (average error)

probe A metal ruler used to measure backfat in hogs

procaryotic A type of microorganism with a primitive nucleus that lacks chromosomal organization and a clearly defined membrane, and in which nuclear division is less complex than mitosis

process To heat a food (either before or after sealing in a container) for a specific time at a specific temperature to secure commercial sterility

process calculation A procedure used to calculate processing time and temperature for a canned product

process cheddar A processed cheddar cheese

Composition: moisture 39–40%; protein 22%; fat 31%; ash 4%; salt 1.7%

1 1-in. cube = 0.6 oz

process cheese A mixture of fresh and aged natural cheese that has been pasteurized; may have added flavors; made by melting various types of cheese together and adding butter, milk or cream, and an emulsifying agent (disodium phosphate or sodium citrate); the mixture is then run into molds.

Composition: moisture 40%; protein 23–26%; fat 26–30%; carbohydrate 1–2%; ash 4–5%

process cheese food Similar to process cheese but may have added nonfat dry milk, whey solids, and water

Composition: moisture 43%; protein 20%; fat 24%; salt 1%

process cheese spread Similar to process cheese food but with higher moisture and lower milk-fat content and, therefore, more spreadable

Composition: moisture 47–48%; protein 16%; fat 21–22%; salt 1%

process deviation A change in any critical factor that reduces the sterilizing value or raises a question regarding public health or commercial sterility

processed cheese Any of several types of semihard and hard cheese that has been heated and emulsified, with salt added and sometimes flavor and/or color added, to produce a smooth product

processed food can See **can**; **sanitary can**

processed meat Meat that has been changed by cooking, curing, drying, or freezing (or a combination of these)

processing Heating food in a closed container to produce canned food; subjecting a material to a sequence of treatments, e.g., mixing, heating, forming, packaging, etc.

See Part 2: Microwave Processing Time

process inspection The study of a process, including spot-checking the product at various stages of production

procurement lead time The time required by a buyer to select a supplier and to place and obtain a commitment for specific quantities of material at specified times

produced and bottled by On a wine label, means that a designated winery fermented, aged, and bottled the wine

producer assessments Assessments charged against producers to help pay the cost of a specific price support program

producer's risk The probability of rejecting a lot that has a percentage of defectives equal to the acceptable quality level; the probability that a lot will be rejected by a sampling plan even though the lot conforms to the requirements

producer subsidy equivalents A subsidy that would be necessary to compensate producers for the removal of government programs

Product 19 The proprietary name of a ready-to-eat cereal (sugar 9.9%)

production control program Any of several programs intended to limit production (e.g., acreage allotments, acreage reduction, diverted acreage, marketing quotas, payment-in-kind (PIK), reduced acreage, set-aside, and soil bank programs)

production credit association See **farm credit system**

product regenerator A heat exchanger that uses the heat of the sterile product to heat the nonsterile product

product sealing temperature The recommended product temperature at time of sealing

profilometer An instrument used to measure surface roughness

profiterole Small balls of bread, fish, meat, fruit, custard, or ice cream

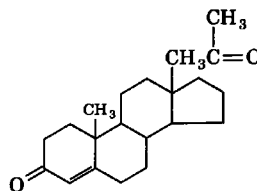
proforma invoice An invoice prepared by the seller before a sale; shows the invoice from the buyer and the amount that will be submitted to the buyer if the sale is consummated

progeny Offspring

progestational agent A substance used to improve growth performance by inhibiting estrus and its adverse effects

progesterone A steroid that is secreted from the corpora lutea and that can block release of gonadotrophins from the anterior pituitary; if present

in sufficient quantities, it will inhibit ovulation.



A hormone that is isolated from bovine ovaries and that can be used in treatment of potential abortion and severe dysmenorrhea

program A set of coded instructions that directs a computer to perform a particular function

program benefits Assistance available to farmers who agree to comply with the requirements of government farm programs

program yield The yield of a crop on a given farm

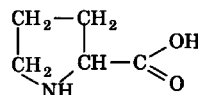
proklada A low-fat, sour liquid that is made from milk whey and may have sugar or fruit syrup added to produce a sweet drink or vegetable extracts and salt to produce a savory drink

prokupac A red wine

prolamin A simple protein that is insoluble in water, dilute salt solutions, or absolute alcohol but soluble in 70–80% alcohol

prolific Bearing many young

proline (2-pyrrolidine carboxylic acid) A heterocyclic amino acid; a dietary supplement and culture medium obtained by hydrolysis of protein



Storage: tight container in a dark place

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

promethium (Pm) A radioactive rare-earth element of the lanthanide series; at. no. 61; Group IIIB of the Periodic Table; mass number of most stable isotope 147; oxidation state +3; electron configuration 2–8–18–23–8–2 orbit K L M N O P

promoter A substance that enhances the activity of a catalyst

promotion A slow cell proliferation that requires prolonged exposure to promoting agent

pronghorn (*Antilocapra americana*) An edible, antelope-like, horned ruminant

proof (US) A measurement of alcoholic strength

1 degree of proof

= one-half of the percentage of alcohol (by volume); e.g., 90 proof = 45% alcohol content

600 proof spirit

proof spirit A spirit that contains 50% alcohol by volume; 25% over proof is 75% alcohol by volume *See British proof spirit; proof*

pro-oxidant A substance that accelerates oxidation; a substance that speeds up rancidity in fats, e.g., metals such as copper or iron

propachlor (2-chloro-N-isopropyl-acetanilide)
An herbicide

See Part 2: Corn Herbicides

propagate To reproduce; to have young

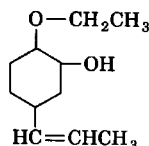
propane (C_3H_8) A flammable hydrocarbon gas; used as a fuel and refrigerant

See Part 2: Refrigerants

propazine [2-chloro-4,6-bis(isopropylamino)-S-triazine] A pre-emergence herbicide

propellant A liquefied gas with a vapor pressure greater than 14.7 lb/in.² at 105°F

propenylguaethol



Used as a vanillin-like flavoring agent in food
Storage: tight container in the dark

prophase A phase of meiosis

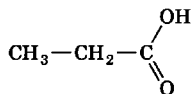
Prophase I—chromosomes shorten and then thicken

Prophase II—chromosomes began to unravel

propionaldehyde (C_3H_6O) Used as a sharp flavoring agent

Storage: tight container

propionic acid

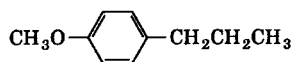


A saturated acid that is sometimes found as a free fatty acid in natural fat and that can be metabolized by humans; the acid and its sodium, potassium, and calcium salts are antimicrobial agents used to prevent mold and rope in bakery products and mold in milk products.

Levels used: 0.32% of flour in white bread and rolls; 0.38% of flour in whole wheat products; 0.3% in cheese products

Storage: tight container

propyl anisole



Used as an aniselike flavoring agent in food; sp. gr. 0.940–0.944

Storage: full, tight container in a cool, dark place

propylene glycol ($CH_3CHOHCH_2OH$) A bitter-tasting, viscous liquid that is used as an emulsifier, humectant (to maintain moisture and give texture to food), solvent, stabilizer, texturizer, thickener, wetting agent and to prevent discoloration; sp. gr. 1.034–1.038

See Part 2: Antioxidant Mixtures

propylene glycol alginate [$(C_9H_{14}O_7)_n$] The propylene glycol ester of alginic acid, derived from seaweed; used as an emulsifier, stabilizer and thickener in salad dressings and ice cream

Storage: tight container

See algin

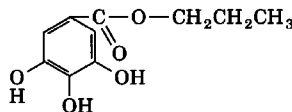
propylene glycol monoesters and diesters Produced by treating propylene glycol with fatty acids; used in shortening (to make baked goods light)

propylene glycol monostearate A cream-colored wax; used as a dough conditioner, an emulsifier, a lubricant, and a stabilizing agent in food

Storage: tight container

propylene oxide (CH_3CHCH_2O) A flammable gas used for the sterilization of food, particularly cocoa, dried and glacé fruit, gums, nutmeats, spices, and starch

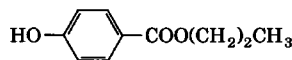
propyl gallate A white, bitter-tasting powder that is an antioxidant and is used to retard rancidity in fat; 0.01% in fat (total antioxidant 0.02% in combination)



Storage: tight container

See Part 2: Antioxidants, Formulas; Antioxidant Mixtures; Antioxidant Structure

propylparaben



Used as an antimicrobial agent in food or as a preservative in beverages, cake-type pastries, relishes, and salad dressings.

Storage: tight container

prosciutti [(the plural form of prosciutto) **sweet ham capocollo**] A dry-cured ham coated with black pepper and originating in Italy; a flat ham (12–20 lb) cured under pressure, with the skin remaining on the ham, and processed at a low temperature for several days; sliced paper-thin for eating; “senza cotica senz osso” on the label means without skin and without bone. Small prosciutto (prosciuttini) is similar to a prosciutto except it is cooked, and ground black pepper is used as the principal seasoning.

prosciutto A dry, salt-cured (no nitrite or nitrate), aged (air-dried for 1 yr) country ham that is often eaten without cooking; lower salt content than dry-cured hams; flavor varies considerably with processor; also made in a boneless style; usually thin-sliced;

the spices often used are black pepper, cinnamon, coriander, dextrose, mustard, nutmeg, and white pepper

1 cup, thin strips = 5.2 oz

See **prosciutti**; **prosciuttini**

prosciutto cotto Cooked ham

prosciutto crudo Raw, salted ham

prosciutto ham Italian-style ham with the skin left on; it is dry-cured under pressure, given a mild heating process, and smoked; it is sliced very thin for eating.

Prosecco di Conegliano A clear, (still or sparkling) Italian white wine made from Prosecco grapes

prosek A strong white wine

Proskauer Beck medium See Part 2: Microorganism, Media

proso See **millet**

prostaglandin Any of several chemically related hydroxy fatty acids that control inflammation, vascular permeability, and certain hormones

prostate gland A two-lobed body that surrounds the urethra at the neck of the bladder in the male; it secretes an alkaline fluid that cleans and lubricates the urethra prior to ejaculation.

prosthetic group An active chemical group, such as an enzyme or vitamin, that promotes essential chemical transformation within the body; such groups are sometimes called metabolites.

prostokvasha Yogurt

protactinium (Pa) A radioactive element of the actinide series; at. no. 91; at. wt. 231; Group IIIB of the Periodic Table; oxidation states +5, +4; electron configuration 2-8-18-32-20-9-2 orbit K L M N O P Q

protamine Any of several simple natural proteins that contain only a few amino acids (mostly arginine); they are basic, water-soluble, and not coagulated by heat; found in sperm cells

protective coating A thin layer of a material that protects the substrate from oxidation or other chemical attack, e.g., electroplated metals, lacquers, packaging films, and paints

protective colloid A colloidal substance, such as gelatin, that coats particles of fats in a mixture and thus keeps them from coalescing; this function is performed by lactalbumin in milk.

protective food A food of special value for physical development and the protection of health; a food high in essential nutrients

protein (primary) Any large complex polymer of α -amino acids (containing nitrogen) linked through peptide bonds; molecular weight may be up to several million daltons. Essential in nutrition and required by all life forms, protein is the chief tissue-builder of every cell in the body. The amino acid composition (18 or more possible amino acids, over half of which the body can make its own supply) of protein determines its nutritive value; highest values are given to proteins with essential amino acids in the ratio needed by the body. The coefficient of digestibility normally

varies from 75% to 97% with different foods.

Protein efficiency ratio (PER):

Greater than casein (2.5)—USRDA 45 g

Less than casein—USRDA 65 g

Equivalents:

Protein equivalent to 2-3 oz of cooked meat, poultry, or fish = 2 eggs

= 1 cup cooked beans or peas

= 4 tbsp peanut butter

Percentage of protein

= (percentage of nitrogen) \times 6.25

Guideline: women from 23 to 50 years old need 45-65 g/day on average.

See Part 2: Bananas, Composition; Beans, Peas, and Nuts; Beef, Percentages of Daily Recommended Allowances; Cereal Nutrient Content; Cheese Composition; Cherry Composition; Composition of Food; Concentrated and Dried Milk Products; Corn Kernel Composition; Creams, Butter, and Frozen Desserts; Cultured Dairy Products, Composition; Dairy Products, Composition; Egg Composition; Egg Specifications; Fats and Oils, Composition; Fish and Shellfish, Composition; Flour, Extraction Rates; Fluid and Fermented Milks, Composition; Food, Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Histochemical Test; Lamb, Percentages of Daily Recommended Allowances; Lemon Juice, Composition; Lime Juice, Composition; Macaroni and Noodles, Composition; Manure Analysis; Meat and Meat Products, Composition; Meat Composition; Meat, Nutritive Value; Milk and Cheese, Composition; Milk Breeds, Composition; Milk Composition; Milk, Concentrated Products; Milk, Dry Products; Milk, Mammals, Composition; Milk, Species; Minerals (Trace), Limits; Minerals, Plant or Animal Tissue; Myofibrillar Proteins of Muscle; Oils and Fats, Composition; Oil Meals, Composition; Olives and Pickles, Composition; Packinghouse By-Products Composition; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Protein and Amino Acids, Color Reactions; Protein Factors; Pulses, Nuts, and Seeds, Composition; Recommended Daily Dietary Allowance; Sausage Composition; Sausage Nutritive Value; Seed, Chemical Composition; Seed Composition; Soups, Composition; Soybean Composition; Starches and Starchy Roots, Composition; Sugars and Sweeteners, Composition; Sugars and Syrups, Composition; Sweet Potato Nutritive Value; Tomato and Tomato Products, Composition; Turkey Composition; Variety Meat, Percentage of Daily Recommended Allowances; Vegetable Composition; Wheat and Flour, Composition; Wheat, Parts of Grain; Wheat Products, Composition

proteinase An enzyme that hydrolyzes protein

protein bumps Appear as an allergic reaction to certain proteins or to an excess of some amino acids

protein-calorie A measure of the metabolizable energy of the dietary proteins; obtained by multiplying the crude protein content by 4:

Protein-calorie = $N \times 6.25 \times 4$

= $N \times 25$

protein-calorie malnutrition A pathological condition arising from coincident lack of protein and calories

602 protein concentrate

protein concentrate An edible product containing at least 50% protein

protein, conjugated A protein combined with other types of molecules, e.g., hemoglobin, nucleoprotein

protein determination See *Kjeldahl determination*

protein efficiency ratio (PER) A measure of protein quality, defined as the weight gained divided by protein consumed and usually determined by a test conducted on rats for a 4-week feeding trial with a test protein and a casein-based diet; rat growth rate measured when fed a single protein source in an otherwise adequate diet; also found using 21-day-old rats fed a standardized diet containing 10% protein under standardized conditions

Food	PER
Whole egg	3.5
Whey protein	3.2
Beef	2.6
Casein	2.5
Soy flour	2.0
Wheat flour	0.6
Gelatin	-1.2*

*Missing an essential amino acid, which causes a weight loss

$$\text{PER} = \frac{\text{body-weight gain (in grams)}}{\text{protein consumed (in grams)}}$$

protein equivalent The total nitrogenous contribution of a substance compared to a protein (usually plant), e.g., urea protein equivalent of 281%

protein extender (protein filler) Concentrated plant protein, used as an ingredient in animal products

protein filler See *protein extender*

protein food A formulated food designed to meet a protein nutritional need

protein hydrolysate A partially hydrolyzed protein containing amino acids and polypeptides

protein isolate A pure or almost pure edible product, usually 90% or more protein

pro tem *Pro tempore* (for the time being)

proteolysis The hydrolysis of protein, e.g., digestion

proteolytic enzyme An enzyme that decomposes proteins to their component amino acids, as occurs in the digestion of foods, e.g., pepsin See also *enzyme*

proteose A hydrolytic product of proteins that is water-soluble, not coagulated by heat, and is precipitated by saturated ammonium sulfate

proteose agar See *Part 2: Microorganism, Media*

proteose tryptone agar See *Part 2: Microorganism, Culture Media, Dairy and Food Products*

Proteus A genus of intestinal microorganisms

See *Part 2: Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Microorganism, Media; Microorganism Reactions on Differential Tube Media; Spoilage, Protein Foods*

protist A single-celled organism (one of the Protista): Lower—bacteria; blue-green algae

Higher—fungi; higher algae; protozoa

Protista A division of autonomously synthetic (i.e., self-contained or independent) unicellular organisms that lack differentiation of the cell parts for specific metabolic purposes; this kingdom contains algae, bacteria, fungi, protozoa, rickettsia, and viruses

proto- A prefix used to indicate first or primitive

proton A positively charged particle that is present in all atomic nuclei; it has a mass of 1.0076 and is identical with the hydrogen ion (H^+); charge 4.802×10^{-10} absolute electrostatic units (esu); diameter 2.8×10^{-13} cm

See *Part 2: Constants, Fundamental*

protopea See *cowpea*

protoplasm The basic material of all plant and animal cells; a complex mixture of proteins, amino acids, phosphorus, and ribose sugars

See *Part 2: Moisture in Biological Materials*

protoplast 1) A cell. 2) A cell that does not have a cell wall

Protozoa A division of motile, single-celled animal organisms (e.g., amoeba, paramecium) of the higher Protista kingdom

See *Part 2: Culture Media*

provacular See *Part 2: Wheat Kernel Parts*

provatura A small, mozzarella-type cheese made from buffalo's or cow's milk

prove To allow bread dough to rise

provençale A style of cooking using garlic, tomatoes, and oil

proven yield Yield that is substantiated by records

providence A medium-flavored, semisoft cheese

provitamin The precursor of a vitamin, e.g., carotene (provitamin A) and ergosterol (provitamin D)

provola A mild, spun-curd (pasta filata) dessert cheese that is made by stretching the curd in hot water; may be smoked

provolette cheese See *Italian cheese*

provoletti A small, ball-shaped, provolone-type cheese made from cow's milk

provoloncini See *Italian cheese*

provolone (provolette; provoloncini; provoloni; salami provolone) An Italian hard cheese; hard, smooth, spun-curd (pasta filata) cheese (used for dessert or for grating) usually made from cow's milk, with rennet added, and weighing from 200 g to 30 kg; matured from 2 months to 2 years, with a mellow to sharp flavor (may have a smokey and salty taste) and a firm, smooth texture; light creamy yellow to white interior and thin, light brown to golden shiny surface; may be smoked

Available shapes: ball; pear; sausage; stretch cheese
Composition: moisture 38–41%; protein 25–28%; fat 26–28%; carbohydrate 2–3%; fiber 0%; ash 4–5%; salt 3% (sodium 248 mg/oz)

Similar types of cheese are mozzarella and scamorza.
Storage: can be frozen (0°F) if no more than 1 in. thick; use within 6 months

See also **Italian cheese; provoloni**

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Dairy Products, Composition II

provoloni A hard, white, mellow-to-sharp, piquant, smokey, tangy cheese made from whole milk; it has a golden yellow to brown shiny surface bound with a cord, and a light, creamy to yellowish white interior; pear- to sausage-shaped See also **Italian cheese; provolone**

proximate analysis A chemical analysis that shows the content of moisture, protein, fat, carbohydrate [including fiber (cellulose)], and ash

p.r.r Latin for as needed

prune (*Prunus domestica*) A fruit that is 83% edible; the primary sugar is dextrose. 1) A dried plum, usually purplish black. 2) A variety of plum whose high-sugar fruit is suitable for drying (can be dried whole, without fermentation of the pit); the purplish blue-black fruit has a moderately firm flesh that separates easily from the pit; available both fresh and dried. Before drying, prunes are lye-dipped to puncture the skin and make it thinner, which promotes rapid drying and improves the skin texture; the lye is removed by washing before drying.

Types:

French or Agen (also called Sweet, California, or Santa Clara)—oval; dark blue, glossy thick skin; meat clings to the smooth pit

Imperial, Large Imperial—extra large

Italian or Oregon—tart; oval; dark blue, thin, wrinkled skin; meat separates from round pit

Large sugar

Silver—large, oval; golden when ripe; thin tough skin; mild sweet flavor

Number of prunes per pound:

French—30–40; 40–50; 50–60; 60–70; 70–80; 80–90; 90–100; 100–120; 120 up

Imperial—15–20; 18–24; 20–30

Italian—25–35; 35–45; 30–40; 40–50; 50–60; 60–70; 70–80; 80–90; 90–100

Pitted prunes: max. 3% may contain whole pit or a pit fragment exceeding 2 mm

Refuse: 6–20% (smaller prunes may yield more waste)

1 lb, dried = 2½ lb California prunes, fresh
= 3–4 lb other prunes, fresh
= 2–3 cups

1 lb, dried, whole
= 2½ cups [1 cup = 175 g (6.2 oz)]
= 4–4½ cups, cooked [230 g (8.1 oz)]

1 lb, dry, unpitted = 8–10 servings
= 90 small prunes
= 55 med. prunes
= 25 large prunes

1 lb, canned = 10–14 prunes

1 cup, pitted, ground = 9.7 oz

1 cup, canned = 9.2–9.4 oz

1 cup med. prunes, whole, with pits = 6.6 oz

1 cup, pitted, chopped = 5.3 oz

1 serving = 5 dried prunes

1 large prune, dried = 9 g

1 med. prune, dried = 7 g

1 small prune, dried = 5 g

Canned styles:

Dried—ready-to-serve

Breakfast (or prepared) prunes—packed in own juice

Variety	Flavor	Name	Style
French	Sweet	Prunes in syrup or prepared dried prunes	Dried, with syrup
		Canned dried prunes	Dried, without syrup
Italian or Oregon	Tart	Fresh prunes or Italian prunes	Fresh, whole, unpeeled and unpitted
			Pitted, unpeeled halves
		Prunes in syrup or prepared dried prunes	Dried, with syrup
		Canned dried prunes	Dried, without syrup

Can size	Halves (fresh)	Count per can		
		Whole (fresh)		
		Fancy	Choice	Standard
No. 2	17			
No. 2½	35	14	18	22
No. 10	95	55	65	90

Composition	Dried prunes	Juice
Moisture (%)	3–24	80
Protein (%)	2–3	0.4
Fat (%)	0.5	0.1
Carbohydrate (%)	71–91	19
Ash (%)	2	0.5
pH	3.1–5.4	3.7–4.3

Sugar 4 tsp/3–4 med., dried

See also **plum** and other **prune** entries

See Part 2: Food, Composition; Fruit, Availability; Fruit, Canning Dates; Fruit Classification; Fruit Composition; Fruit, Dried, Simmering; Fruit, Frozen Yield; Fruit Harvest Dates; Fruit Servings; Microwave Cooking; Fruit; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Standards, Processed Fruit and Vegetable Products

prune, breakfast See **prunes, prepared**

prune butter See **prune lekvar**

prune juice The water and some of the pulp (obtained by pressure) from dried, cooked, pitted, and strained prunes

1 cup = 8.6–9 oz

prune-kernel paste Produced by cooking blanched, ground prune kernels with sugar

604 prune lekvar (prune butter)

prune lekvar (prune butter) A thick puree of prunes; used in baking and as a spread

prunella A plum-flavored, brandy-based liqueur

prunelle Liquor flavored with sole berries; used as an after dinner cordial

prunes, canned In addition to prunes, may also contain natural and artificial flavors, spices, vinegar, lemon juice or other organic acid, and unpeeled pieces of citrus fruits

Sucrose in syrup:

Extra light—20%

Light—20–24%

Heavy—24–30%

Extra heavy—30–45%

prunes, prepared (breakfast prune) Dried prunes packed in their own juice

pruning The removal of plant parts; trimming the branches of a plant for a specific purpose

prussic acid (hydrocyanic acid) (HCN) Hydrocyanic acid; hydrogen cyanide; a glucoside toxin produced by several plants (e.g., sorghum)

pry-off (side seal) A closure with gasket material contacting the side of the glass container; it is removed by prying off the lid.

PSE Pale, soft, exudative pork

See Part 2: pH, Post-Mortem

Pseudomonas A genus of gram-negative rods; often responsible for low-temperature spoilage; an intestinal microorganism

See Part 2: Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Microbiological Media; Microorganism Reactions on Differential Tube Media; Spoilage, Fat in Food; Spoilage, Protein Foods

pseudomonas blight (blossom blight; false fire blight; lilac blight; *Pseudomonas syringae*) A bacterial disease of pears that usually starts in the fruit flowers

pseudosel agar See Part 2: Microbiological Media

pschenichnaya A vodka made from wheat

psi 1) (Ψ , ψ) The Greek letter with an English equivalent of ps. 2) An abbreviation for pounds per square inch (used in measuring the pressure of air and liquids)

psig Pounds-per-square-inch gauge

psoas major A muscle of the lumbar area that lies under the lumbar vertebrae; in cross section it is larger and more dorsal than the psoas minor; in combination with the psoas minor, it is often called the tenderloin or fillet.

psoas minor A muscle of the lumbar area that lies under the lumbar vertebrae See also **psoas major**

P/S ratio The ratio of enzymatically determined polyunsaturated and saturated fatty acids

psychology The study of the behavior of animals

psychrophilic bacteria Bacteria that grow at a low temperature; minimum growth temperature -5 to $+5^{\circ}\text{C}$; optimum growth temperature 20 – 30°C ; maxi-

mum growth temperature 35 – 45°C ; generation time at 0°C is less than 48 hours.

Bacteria genera	Mold genera
<i>Achromobacter</i>	<i>Cladosporium</i>
<i>Flavobacterium</i>	<i>Mucor</i>
<i>Pseudomonas</i>	<i>Penicillium</i>
	<i>Thamnidium</i>

psychrotrophic (cold-tolerant) Describes microorganisms that are capable of reproduction on foods at temperatures used for refrigeration but grow even more rapidly at room temperature, e.g., bacteria with a low (10°C) temperature requirement that grow best at warm temperatures (10 – 45°C) and slowly at low temperatures (0 – 28°C)

See Part 2: Microbiological Standards, Dairy

psylla See **pear psylla**

psyllium seed (fleeseed) A seed that can be chewed or used as a cereal or in vegetable drinks

PT (press-on, twist-off) cap A deep-skirted cap with flowed-in plastisol gasket; the cap can be removed by hand.

Pt The symbol for the element platinum

ptomaine poisoning Ptomaine means decarboxylated amino acids; because they are not detrimental to health when eaten, this is a misnomer; as used today, the term is synonymous with staphylococcus food poisoning.

ptyalin An enzyme in saliva that breaks down starch

Pu The symbol for the element plutonium

puant de Lille See **gris de Lille**

puant macéré See **gris de Lille**

puberty The age at which organs become capable of reproduction; for the ages of farm animals See **gestation period**.

pubescence The covering of fine hair on leaves or fruit, e.g., peach

pubic symphysis The point at which the two pelvic bones fuse and at which they are separated in splitting of the carcass

pubis The flat bone forming the floor of the pelvic bone

published method A method that has been published and subjected to a ruggedness test in an FSIS science laboratory but that has not been thoroughly evaluated outside the originating laboratory; it may be used in nonrecurring analyses and requires the development of a rigorous protocol for sample analysis. Before acceptance of analytical results for regulatory action, it is necessary to repeat the entire series of analyses using an official method.

puckery Astringent; causing the mouth to contract

puda A type of dosa

pudding 1) A dessert, usually baked or boiled, based on bread, rice, apples, plums, etc., together with milk, flour, sugar, and flavoring

Types:

Custard—thickened with eggs

Gelatin pudding—not baked

Types (continued)

Indian pudding; cornmeal pudding; rice pudding; bread pudding

Soufflé—delicate

Spanish cream (Bavarian)

Steamed fruit

Thickened with arrowroot, cornstarch, or flour

2) The sweet or dessert course of a meal. 3) A crust containing fruit

See Part 2: Portion Size; Stabilizers, Thickeners

pudding, instant Store at room temperature (below 70°F); shelf life 1 yr

puddling Compacting wet clay soil by eliminating water and air, e.g., as heavy soil worked when wet

Puerto Rican food habits

Animal products—salt cod; pork; beef

Fruits and vegetables—bananas; beans and other legumes; oranges, pineapples, plantains; tomatoes; tubers or root vegetables

Grain—rice

Spices—onion; pepper

Puerto Rico rum A light-colored rum with a light flavor

puff-ball (*Calvatia gigantea*) A large edible fungus (when young and firm-fleshed); it is white and turns yellow and brown as it matures.

puffed oats A breakfast cereal

Composition: moisture 3%; protein 12%; fat 5%; carbohydrate 74%

puffed rice 1) A breakfast cereal made by heating rice under pressure and then rapidly releasing the pressure causing the superheated steam in the rice to expand the kernel. 2) A ready-to-eat rice cereal made from the endosperm with a small portion of the embryo

1 cup = $\frac{1}{2}$ oz

Composition: moisture 3%; protein 6–7%; fat 0.5–7%; carbohydrate 85–89%; sugar 0.1%

puffed wheat 1) A breakfast cereal made by heating wheat in a closed container to a temperature of 288°C; the cylinder is suddenly opened and the superheated water changes to steam inside the grain, causing it to increase in size. 2) A ready-to-eat wheat cereal made from the endosperm with most of the bran and most of the embryo

1 cup = 0.4 oz

Composition: moisture 3%; protein 14–15%; fat 1.5–7%; carbohydrate 71–77%; sugar 0.5%

puffer (globefish; puff-fish; *Sphaeroides* spp.) A food fish

puffiness In citrus fruit, the rind becomes thickened, soft, loose, separated from the segments, and sometimes cracked; it is probably caused by a loss of water and is usually found in over-ripe fruit

puff paste Flaky pastry

puff pastry Tender, flaky layers of dough and butter (which makes the dough light)

pulas(s)an (*Nephelium mutabile*) A single-seeded fruit that is native to southeast Asia and is similar to the lychee, with a pink, pebbly skin and grapelike flesh; eaten raw

pulgogi Slices of barbecued beef

puligny-montrachet A dry white wine

pul ko-kee Broiled beef

pulla A plaited tea bread flavored with cardamom

pull date The last day a retail store may offer an item for sale; the date is designed to offer a reasonable amount of time to store and use the product at home.

pullet A young female chicken before it reaches the age of egg laying

pulley bone See **wishbone, poultry**

pulley size The formula for calculating the size of pulley is as follows

pulley size (driven machine)

$$= \frac{[D(\text{driver pulley})][\text{rpm}(\text{driver})]}{\text{recommended rpm of driven pulley}}$$

pulley size (driver)

$$= \frac{[D(\text{driven pulley})] \left[\frac{\text{recommended rpm}}{\text{of driven pulley}} \right]}{\text{rpm of driver pulley}}$$

speed of driven machine

$$= \frac{[D(\text{driver pulley})][\text{rpm}(\text{driver pulley})]}{D(\text{driven pulley})}$$

rpm = revolutions per minute

D = diameter

pullman A product packed in a long, usually rectangular or square, container

pull-up The distance from the leading edge of the closure lug to the vertical neck ring seam

pulmonary artery The artery that transfers blood from the heart to the lungs

pulmonary vein The vein that transfers blood from the lungs to the heart

pulp (pomace) The residue remaining after extraction of juices of fruit, roots, or stems; a suspension of fibers in water; molded pulp is often used for packaging eggs.

pulp fed Livestock fed sugar beet pulp

pulpy Describes a moist, cohering mass; a fleshy texture

pulque A white, viscous, alcoholic drink made by fermentation of the juice of the century plant (*Agave* spp.) or the fruit of the prickly pear cactus (*Opuntia* spp.) See also **tequila**

pulsating dc Direct current that varies in magnitude

pulse (family Leguminosae) The edible dried seed of a leguminous plant; used as food in both the green, or fresh, state and in the mature, or dried, state; the edible seed of leguminous crops, e.g., beans, lentils, peas (or split peas), and soybeans

1 bu = 60 lb

See Part 2: Pulses, Nuts, and Seeds, Composition; Water Activity, Organisms and Food

606 pultost

pultost A soft, yellow to dark Norwegian cheese made from sour, skimmed cow's milk, with rennet added
See **knaost**

puma See **kumiss**

pumice A volcanic rock that is used as an abrasive in fine-ground form

pummelo See **pomelo**

pump A device for raising, transferring, or forcing a solution

pumpnickel (rye graham; rye meal) A hard, coarse, black, sourdough bread with a heavy crumb; made primarily from rye flour with some dark wheat flour, sometimes leavened with sour dough; a hard

bread that is made from coarsely ground whole-rye flour and has a slightly acid flavor

pumping Introducing a pickle into meat under pressure by injection through a needle.

pumpkin [*Cucurbita moschata* (winter crookneck; crushaw pumpkin); *C. pepo* (summer pumpkin; autumn pumpkin; bush pumpkin)] A climbing herbaceous plant, related to squash, that produces a large, round to oblong, yellow to orange pepo with a grooved surface; when cooked, the pulp (almondlike flavor) is difficult to tell from winter squash and is often used as a pie filling; the seeds are also edible (rich in protein and fat) and may be dried and eaten with or without the seed coat. Seed 1 oz./100-ft row, 4–7 lb/acre; plant 4 ft apart in rows 5 ft apart; mature in 75 days

Pumpkin variety	Fruit		
	Size	Color	Shape
Connecticut field pumpkin (<i>C. pepo</i>)—large (some > 100 lb), orange-yellow, slightly ribbed fruit (season about 100 days) used for display and baking			
Big Max (season 120 days; used for pies)	100 lb	Pink-orange (yellow-orange flesh)	Round to flattened; rough skin
Big Tom (season 120 days; used for canning and pies)	18 lb	Orange (yellow flesh)	
Boston Pie (Sugar)			
Fort Berthold	2–3 lb	Golden or brownish yellow	Flattened
French Tours			
Golden Oblong	7–8 lb	Golden orange	Twice as long as thick
Jack O'Lantern (season 110 days; used for carving)	Med.	Orange (orange-yellow flesh)	Round to elongated
Mammoth Tours	100 lb	Mottled green, orange-yellow	Twice as long as thick
Omaha	4 lb	Orange	Oblong; pointed toward stem
Pie	7–10 lb	Orange-yellow	
Sandwich Island		Brownish yellow	Oblong; twice as long as thick; tapering toward stem; grooved
Small Sugar (season 100 days; used for pies)	7 in.	Orange-yellow (orange flesh)	Round; slightly ribbed
Sugar (New England Pie)	4–5 lb	Golden; brownish yellow	Flattened
Sugar Pie			
Winter Luxury			
Winter Queen			
Cheese pumpkin (<i>C. moschata</i>)—used for canning and stock feed; keeps reasonably well			
Calhoun	5–6 lb	Cream-buff	
French Cocoanut	15 lb	Cream-buff	Elongated; tapering ends
Kentucky Field		Gray-orange rind; salmon flesh	
Large Cheese	10 lb	Cream-buff	
Quaker Pie	9–10 lb	Buff	Pear
Sweet Cheese			
Crookneck (<i>C. pepo</i>)—used as summer squash; soft, white or yellow, warted rind; crookneck at stem end			
Connecticut Straightneck		Yellow	Straight stem; smoother skin
Giant Summer Crookneck	Large		
Strickler			Crookneck
White		White	Crookneck
Yankee Hybrid			
Yellow		Yellow	Crookneck

(Continued)

Pumpkin variety	Fruit		
	Size	Color	Shape
Cushaw (<i>C. moschata</i>)—slight to very crooked neck; large blossom end			
Japanese Pie		Dark green with light green stripes	Pear; straight neck
Jonathan			
Mammoth Golden	12 lb	Gold	Crooked stem
Small Golden	7 lb	Gold	Crooked stem
Striped	12 lb	Netted green stripes	Slightly crooked stem; neck is edible part
Tennessee Sweet Potato	15 lb	White or light green stripes	Pear or bell
White	12 lb	White	Slightly crooked stem
Fordhook (<i>C. pepo</i>)—summer and fall; good for baking; best flavor soon after picking			
Delicata	2-3 lb	Orange and green stripes	Oblong
English Cream Marrow			
Fordhook	4-in. diam.	Cream to yellow	Oblong; slightly grooved tapering toward stem
Fordhook Bush	4-in. diam.	Cream to yellow	Oblong; slightly grooved tapering toward stem
Panama	1-2 lb	Yellow	Bell; deeply grooved
Perfect Gem		Tan	Spherical; flattened at both ends
Table Queen	2 lb	Dark green	Elongated; pointed at blossom end
Winter Nut	4 lb	Cream	Apple; grooves from depressed stem
Pattypan (<i>C. pepo</i>)—used when fruit is immature			
Cymlin			
Early White	8-14 in.	White	Flat; scalloped
Golden Custard	8-14 in.	Golden	Flat; scalloped
Long Island White Bush Scallop	8-14 in.	White	Flat; scalloped
Mammoth White Bush Scallop	8-14 in.	White	Flat; scalloped
Mammoth Yellow Bush Scallop			
Pattypan			
Yellow Bush Scallop	8-14 in.	Yellow	Flat; scalloped
Vegetable marrow (<i>C. pepo</i>)—summer; used when immature and tender			
Cocozelle	5 lb	Dark green with light green to yellow stripes	Cylindrical; three times as long as thick
Green Bush Marrow			
Italian			
Long White Marrow	3-4 lb	Yellow to white	Cylindrical; three times as long as wide
Running White Vegetable Marrow	5 lb	Yellow to white	Cylindrical; three times as long as wide
Vining Cocozelle	5 lb	Dark green with light green to yellow stripes	Cylindrical; three times as long as wide
Zucchini	3-5 lb	Green with gray mottling	Cylindrical; three times as long as wide
Vegetable spaghetti—cooked flesh is stringy			
	10 × 5 in.	White	Cylindrical

Canned pumpkin: made from field pumpkins and certain varieties of squashes, cooked in steam; the consistency is light, medium, or heavy, depending on the amount of moisture removed.

Freezing point: 30.5°F

Refuse: 50%

100 lb, fresh = 6-8 lb, dry

one 5-lb pumpkin = 4.5 cups pulp, cooked and mashed

3 lb, fresh, in shell = 1 qt, frozen

2-4 lb, in shell = 1 qt, canned

1 lb, fresh = 0.75 cup, cooked
= 2 servings

1 cup, cooked = 8 oz

Composition	Pumpkin (raw)	Seed (dried)
Moisture (%)	92	4
Protein (%)	1-3.8	29
Fat (%)	0.1-0.6	47
Carbohydrate (%)	6-23	15
Ash (%)	1	5
pH	4.8-5.3	

One-eighth of a 9-in. pie contains 240 calories.
Storage: gather before hard frost; store in well-ventilated place at a little above 50°F; 70-75% relative

608 pumpkin

humidity; storage life 3 months; frozen (cubed or pureed) storage life 6 months

See **squash, winter**

See Part 2: Cucurbit Crops, Spacing and Depth of Planting; Frozen Food Storage; Fruit Classification; Minerals, Food; Plant Foods, Composition; Planting Density; Protein Factors; Seed, Chemical Composition; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Vegetable Composition; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetable Storage; Vegetable Yields

pumpkin kernel See Part 2: Beans, Peas, and Nuts

pumpkin pie Available ready-made; sodium content 169 mg/ $\frac{1}{8}$ pie (71 g)

pumpkin pie spice mixture A frequently used combination is cinnamon (40%), ginger (20%), nutmeg (20%), allspice (10%), and cloves (10%)

Composition: moisture 8–9%; protein 5–6%; fat 12–13%; carbohydrate 69–70%; fiber 14–15%; ash 3–4%

punch A fruit-flavored drink that may or may not contain liquor

1 gal = 40 three-oz servings

See Part 2: Flavors, Beverage

puncheon A variable-sized wine container

1 puncheon = 133 gal California wine

= 120 gal brandy

= 114 gal rum

pungency 1) The “hot” sensation produced by a spice. 2) A characteristic of a food that is responsible for the sharp sensations perceived by the tongue and olfactory gland (e.g., the strength of pepper products can be determined by this characteristic); e.g., the following are some of the substances responsible for pungency of foods:

Capsaicinoids—in fruits of *Capsicum* spp.

Gingerols—in ginger

Piperine—in peppercorns

Usually found in oleoresins and not in distilled essential oils

pungent Describes an astringent or acrid, sharp odor or flavor (often caused by tannin, strong spices, or excessive alcohol)

punjabi wari Yellow, dried balls that are made from a cereal or a legume and are deep-fat fried

punt e mes A bitter, dry vermouth

pupate To pass through the pupal stage, in which an insect changes from a larva to an adult

pura See **poora**

purad A rice wine

purchase order A purchaser’s written offer to a supplier formally stating all terms and conditions of a proposed transaction

purchase part variance The difference in price between what was paid to the vendor and the standard cost of that item

purchasing lead time The time required to obtain a purchased item; includes procurement lead time, vendor lead time, transportation time, receiving, inspection, and put-away time

purebred An animal that is eligible for registration in any breed

Purebred Dairy Cattle Association An association made up of representatives of the organizations that sponsor Ayrshire, Brown Swiss, Guernsey, Holstein, and Jersey cattle

pure culture A culture composed of a single type of microorganism

puree 1) Cooked and sieved vegetables or meat, or a soup made from them; fruit that has been boiled to a pulp and passed through a sieve or strainer. 2) To press through a sieve or ricer. 3) To remove connective tissue from meat

See Part 2: Tomato and Tomato Products, Composition

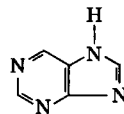
pure steam Air-free saturated steam

purgative A laxative compound; a substance used to cause extreme bowel movement

purified (Purif.) A designation of a grade of chemical purity; a low purity that should not be used for analysis See also **grade**

purified diet A mixture of known essential dietary nutrients in a pure form feed in nutritional test studies

purine ($C_5N_4H_4$) A derivative of pyrimidine and a component of many end products of animal metabolism, including uric acid, adenine, guanine, and various alkaloids; nucleic acids contain purine compounds. The chemical structure is two fused heterocyclic rings. See also **pyrimidine**



purple broth base See Part 2: Microorganism Reactions on Differential Tube Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

purple granadilla See **passion fruit**

purple hull See **pea, black-eyed**

purple lactose agar See Part 2: Microorganism, Media

purple laver See **red laver**

purple milk See Part 2: Microorganism, Media

pur porc A dry, uncooked, smoked Belgian sausage (pepperoni) made from medium-chopped, heavily seasoned pork, fermented and stuffed into pork casings

purse See **cod**

purslane (pussley; *Portulaca oleracea*) A mild, slightly acid, European annual herb that is used in salads or as a potherb; 64,000 seed/oz; germination time 4 days

Foliage—used as spinach, in soup and green salads
Shoots—used in salads and soup; pickled in salt and vinegar

Tuberous root

Cuban winter purslane (*Claytonia perfoliata*) is a perennial that is also used for salads.

purveyor Supplier; provider, wholesaler

pusit Squid

pussley See **purslane**

pusztador A semihard, limburger-like cheese made from cow's milk

puto A steamed bread made from rice (may contain wheat or maize)

put option purchase The right, but not the obligation, to sell a futures contract of a commodity at a specific price during a specified period of time; the put purchaser pays a fixed amount to the seller and for that finite amount of money, just like the call option, the purchaser has limited to this fixed amount the amount that can be lost.

putrefaction The anaerobic microbial decomposition of organic compounds, producing foul-smelling compounds; the decomposition of proteins by microorganisms; spoilage (usually by microorganisms); the process of rotting; decomposition; becoming putrid

putrefactive Describes bacteria that break down protein and cause putrid odors See **putrefaction**

putrid Describes the flavor and odor of proteolytic spoilage See **putrefaction**

PV See **peroxide value analysis**

PVC See Part 2: Blood

PVP (polyvinylpyrrolidone) Used as a stabilizer; bodying agent; clarifying agent; dispersant and tableting adjuvant

Storage: tight container

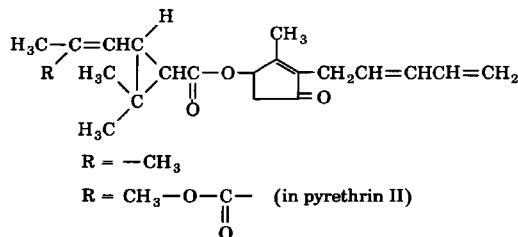
pyo- A prefix used to indicate pus

pyrantel tartrate A drug that is used as a wormer

pyrazine The basic structure (which may have substituted side groups) of several flavor-producing compounds of cooked and roasted foods (and of some uncooked foods)

pyrénées A semihard, esbareich-type French cheese that is pressed but uncooked and contains very little water

pyrethrin Insecticide used to curtail infection in food stuff



pyrethrum (*Chrysanthemum cinerariaefolium*; *C. coccineum*) A plant whose fully opened flower can be made into an insecticide

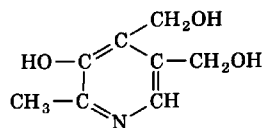
Active insecticidal ingredients: cinerin I; cinerin II; pyrethrin I; pyrethrin II

The insecticide has low mammalian toxicity.

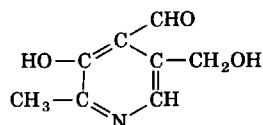
Pyrex Brand glass Proprietary name for a heat-resistant borosilicate glass suitable for high baking temperatures; widely used both in the laboratory and home; practically insoluble in food

pyridine (C₆H₅N) Used in flavoring

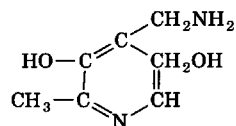
pyridoxine (adermin; pyridoxin) Exhibits vitamin B₆ activity



pyridoxine

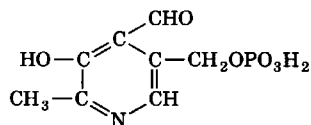


pyridoxal



pyridoxamine

The coenzymetically active form is



pyridoxal-5-phosphate

A water-soluble vitamin that, if deficient in the diet of the rat, will result in dermatitis.

Sources: cereal bran; egg yolk; kidney; leafy vegetables; liver; meats; milk; yeast

Often used as pyridoxine hydrochloride.

Storage: tight container in the dark

See Part 2: Egg Products, Nutritive Value; Grain Analysis; Vitamins; Vitamin Sources, Functions, and Stability; Wheat, Parts of Grain, Vitamins; Wheat Products, Composition

pyrimidine A basic nitrogenous compound from which purine, uracil, and thymine are derived; obtained by hydrolysis of nucleic acid



pyroligneous acid A yellow, acidic (approximately 6% acetic acid) liquid obtained by destructive distillation of wood; used for smoking meat

610 pyrolysis

pyrolysis Chemical decomposition achieved by applying heat, e.g., heating organic matter in the absence of oxygen *See* **destructive distillation**

pyrometer A temperature measuring device that uses a thermocouple

pyrophosphate Used to aid antioxidants and as a flavoring; a cleaning compound that is very stable at high temperature and high alkalinity; slow to dissolve

and lacks calcium sequestering power *See also* **phosphate**

See Part 2: Phosphate

pyrophyllite ($\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$) A carrier for insecticides

pyruvic acid ($\text{CH}_3\text{CO} \cdot \text{COOH}$) An intermediate acid formed during metabolism of carbohydrates

pyshki *See* **pouchki**

Q

q.d. Abbreviation for the Latin meaning once a day
Q.E.D. (*quod erat demonstrandum*) Latin for which was to be demonstrated

Q fever See Part 2: Diseases, Food-Borne

q.(x)h. Latin for every x hours

q.i.d. (*quater in die*) Latin for four times a day

qoorma A dry, mutton ragout

quacheq A sheep's milk cheese

quackgrass [*Agropyron repens* (L.) Beauv.] A perennial weed

quadrants (angle)

- 1 quadrants = 90 degrees
- = 1.571 radians
- = 0.0054 minutes
- = 0.0000324 seconds

quadratic equation $ax^2 + bx + c = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

quadriceps Four muscles on the anterior section of the thigh, attached to the top of the femur and to the patella and to the tibia. Made up of *Vastus lateralis* (most lateral); *Vastus medialis* (most medial); *Vastus intermedius* (between *Vastus lateralis* and *Vastus medialis* & cranial to the femur); *Rectus femoris* (most cranial of the group)

quahog (quahaug; *Venus mercenaria*) A round, New England, hard-shelled clam See also clam

quail (bobwhite; partridge; *Qrtyx virginiana*) An edible, game bird (many species) related to the partridge and sometimes called a partridge.

Composition (flesh and skin, raw): moisture 69.6%; protein 19.6%; fat 12.1%; carbohydrate 0%; ash 0.9%

qualitative Analysis to determine substances present and not the amount

qualitätswein A category (quality wine) of German wine made from approved grape varieties grown exclusively in 11 regions; official government panels must analyze for quality requirements and give control numbers

qualitätswein mit prädiat A category (specially graded quality wine; highest category) of German wine that is specially graded and must be from approved grape varieties See *auslese*; *beerenauslese*; *eiswein*; *kabinett*; *sekt*; *spätlese*; *trockenbeere-nauslese*

quality Desirability or acceptance of a food product; the degree or grade of excellence of a food product as determined by some objective standard

See Part 2: Egg Quality; Egg Quality, Broken; Grades, Meat; Meat Grade Stamps

quality assurance date (freshness date) The date at which a product will have the same quality as when it left the processing plant

quality control A program to prevent or minimize variation in quality attributes; the maintenance of a uniform, consistent, or predetermined quality. It is usually divided into three categories—raw material control, process control, and finished product inspection See also **sample size**; **standard deviation**

quality of protein Amount and ratio of amino acids compared with what is needed by the body

quamash (*Camassia quamash*) A west coast plant whose bulb may be boiled, roasted, or dried and used as food

quanabana See *soursop*

quandong An edible, stone fruit similar to a peach; the stone holds an edible kernel called a quandong nut

quantification The determination of the amount of residue present in a sample

quantitative Analysis to determine the amount of a substance present

quantity Amount

quantity discount An allowance determined by the purchase quantity or value

quarantine To segregate individuals that have a contagious disease

quarenden (quarrender) A red, early apple often used for cider

quarg A fresh, low-fat, acidic, soft, cheese made from cow's milk

quargel A smooth, white to yellow, sharp and pungent cheese with a red to yellow skin

quark A fresh, low-fat, acidic, soft, curd or cottage cheese made from cow's milk; sometimes contains fruit, spices, or sugar

See Part 2: Milk and Cheese Composition

quart (Brit. fluid; Canadian; Imperial) A measure of volume

- 1 quart (Brit. fluid) = 1136.49 milliliters (ml)
- = 40 fl. ounces (Brit. fluid)
- = 2 pints (Brit. fluid)
- = 1.136 liters

quart (Brit.; dry; Imperial) A measure of volume

- 1 dry quart (Brit.) = 40 ounces (oz)
- = 1.136 liters (l)

quart (dry; dry qt; U.S.)

- 1 dry qt (U.S.) = 67.2006 cubic inches (in.³)
 = 2 dry pints (pt; dry)
 = 1.16365 U.S. liquid quarts (U.S.; liquid qt)
 = 1.10123 cubic decimeters (dm³)
 = 1.101 liters (l)
 = 0.29091 U.S. liquid gallon (U.S.; liquid gal)
 = 0.25 U.S. dry gallon (U.S.; dry gal)
 = 0.03889 cubic foot (ft³)
 = 0.03125 U.S. bushel (U.S.; bu)
 = 0.001440 cubic yard (yd³)

quart (liquid; liquid qt; U.S.; U.S. fluid) A measure of volume

- 1 liquid qt (U.S.) = 946.333 milliliters (ml)
 = 256.00 drams (fluid)
 = 57.749 cubic inches (in.³)
 = 32 fluid ounces (fl.; oz)
 = 2 liquid pints (liquid; pt)
 = 0.94636 liter (l)
 = 0.94636 cubic decimeter (dm³)
 = 0.85937 U.S. dry quart (U.S.; dry qt)
 = 0.25 U.S. liquid gallon (U.S.; liquid gal)
 = 0.21484 U.S. dry gallon (U.S.; dry gal)
 = 0.03342 cubic foot (ft³)
 = 0.02686 U.S. bushel (U.S.; bu)
 = 0.001238 cubic yard (yd³)
 = 0.0009464 cubic meter (m³)

See Part 2: Volume

quarter $\frac{1}{4}$; e.g., quarter of beef

quatern See **noggin**

quarters Inside of thighs of a horse or rear fourth of hoof on each side of the foot

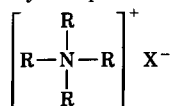
quartirol(l)o A soft, mozzarella-type cheese made from cow's milk

quart, le A cow's milk cheese

quart maroilles A small, strong-flavored, cow's milk cheese

quassia extract (bitter ash; bitter wood) A food and beverage flavoring

quaternary ammonium compound (QUATS) Any of a group of complex organic compounds comprised of a cation and an anion; strong disinfectants and sanitizers; wetting agent with germicidal powers. The ionic structure may be represented as



where R is an organic group and X is a negatively charged atom or group

See Part 2: Sanitizers; Sanitizing Chemicals

QUATS See **quaternary ammonium compound**

quay tepong manis A wheat flour doughnut

Queensland nut (*Macadamia ternifolia*) A macadamia nut; a thick-shelled nut that can be used

as a snack or in confectionery; fat content, 70% See **macadamia nut**

queijo Cheese

queijo fresco A panir-type cheese

queijo seco A white, brined cheese

quenelle A dumpling made of chopped, seasoned, meat or fish and eggs

quenepa See **mamoncillo**

quenette See **mamoncillo**

quercitron A yellow colorant derived from the bark of the black oak and used to color food

quesadilla A fried, baked or grilled, folded tortilla with cheese, chilies, and/or beans

quesillos A semisoft, mildly acidic, smooth, cheese made from cow's milk and wrapped in banana or maize leaves

queso Cheese

queso anejo A 5–10 kg, low-fat, hard, salty, crumbly cheese made from cow's or goat's milk and matured for 6–10 months

queso blanco (Latin American white cheese) A semisoft, mildly acidic, smooth cottage cheese made from skimmed cow's (sometimes buffalo's, goat's, or sheep's) milk; usually eaten fresh

queso blue Blue cheese

queso cocido A processed cheese

queso criollo A semisoft, mildly acidic, smooth cheese

queso de bagaces A strong-flavored, semihard, acid curd, salty cheese made from cow's milk

queso de bola An edam-type cheese

queso de cabra A low-fat, hard, salty, crumbly cheese made from goat's milk; may be eaten fresh or aged

queso de cincho A semisoft, mildly acidic (sour milk), smooth, spherical, 200–400 mm in diameter, cheese wrapped in palm leaves

queso de hoja Leaf-shaped, slices of hoja cheese made from fresh, cow's milk

queso de la estrella See **estrella**

queso de la tierra A semisoft, mildly acidic, smooth cheese made from whole or partly skimmed, cow's milk

queso del pais A semisoft, smooth cheese that has sodium carbonate added to reduce curd acidity

queso de mano A mozzarella-type cheese made from sour cow's milk and stored in banana leaves

queso de maracay A semisoft, mildly acidic, smooth cheese made from skimmed cow's milk with rennet added

queso de matero A semisoft, mildly acidic, smooth cheese made from raw milk

queso de palma melida A semisoft, mildly acidic, smooth cheese wrapped in palm leaves

queso de pera A provolone-type cheese made from cow's milk

queso de perija A semisoft, mildly acidic, smooth cheese

queso de prensa A semisoft to hard, mildly acidic, smooth, pressed cheese made from whole cow's milk with rennet added

queso de puerco A moist, cooked, unsmoked Mexican sausage made from coarsely chopped, medium seasoned, pork and not stuffed into a casing

queso de puna A fresh, semisoft, mildly acidic cottage cheese made from rennet-coagulated, skimmed cow's milk

queso descremado A semisoft, mildly acidic, smooth cheese made from skimmed cow's milk

queso do los montes A golden, hard, pressed cheese made from sheep's milk

queso emredo A provolone-type cheese made from cow's milk

queso enchilado A low-fat, hard, salty, crumbly loaf-shaped cheese made from cow's or goat's milk and covered with red chili powder

queso estera A semisoft, mildly acidic, smooth cheese made from whole or partly skimmed cow's milk

queso fresco A semisoft, mildly acidic, cheese made from rennet-coagulated skimmed cow's milk

queso huloso A semisoft, mildly acidic, smooth cheese made from skimmed cow's milk

queso llanero See **llanero**

queso oaraca A provolone-type cheese made from cow's milk

queso pasteurizado A semisoft, mildly acidic, smooth cheese made from pasteurized cow's milk

queso zuliano A semisoft, mildly acidic, smooth cheese

quetsch A clear brandy distilled from blue switzen plums (*Prunus*)

quetsch d'alsace An after dinner cordial made from spirits of wine (50% alcohol) and flavored with sole berries and aromatic herbs

quiana nut See **souari nut**

quiche An open-faced; fruit, egg, fish, or vegetable flan or tart

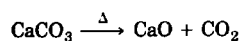
quick cereal These cereals are normally preheated and rolled into fine flakes; a few have a phosphate salt additive to raise the boiling point of cooking

quick cure A meat-curing pickle containing some nitrite

quick frozen food A food frozen so rapidly that only small ice crystals have time to form and close to normal flavor is thus retained; usually frozen at -20°F or lower

See Part 2: Freezing Rate

quicklime (CaO) Calcium oxide, made by roasting limestone



quill Curled bark

quimbombo See **okra**

quince (*Cydonia oblonga*; *C. vulgaris*) A tree that produces a fruit similar to an apple or pear but has many ovules in each section; it is hard and acid but makes good jam, jelly, or marmalade; can be baked or stewed or used in sauce or puddings; contignac and marmelo candies made from puree and sugar; yellow flesh that turns pink when cooked; very astringent even when ripe; strong odor, yellow or greenish yellow with a gray bloom when ripe; bruises easily; round to pear shape

Cultivar	Season	Remarks
Champion	November	Cold hardy
Orange (apple)	September	Most popular; good quality; tender with good flavor
Pear		Hard, tough, good flavor
Pineapple	September	Good quality
Portugal		Scarce

1 basket = 48 pounds

3 medium fruit = 1 pound

Composition (raw): moisture 84%; protein 0.4%; fat 0.1%; carbohydrate 15%; ash 0.5%; pH 3.2

Storage: 32°F, 90–95% relative humidity; storage life, 2 months.

See Part 2: Fruit and Nut Rootstock; Fruit Classification; Fruit Composition; Minerals, Food; Storage

quince, Japanese (*Cydonia japonica*) A warm weather quince that bears green fruit that is made into jelly

quinic acid (chinic acid) [$\text{C}_6\text{H}_7(\text{OH})_4\text{COOH} \cdot \text{H}_2\text{O}$] An organic acid obtained from the bark of the cinchona tree; also present in cranberries, plums, and prunes

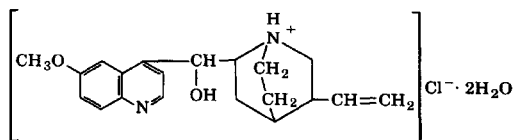
See Part 2: Organic Acids in Fruits and Vegetables

quinine ($\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2 \cdot 3\text{H}_2\text{O}$) An alkaloid drug extracted from the bark of the cinchona tree; especially useful in treating malaria.

See Part 2: Organic Acids in Fruits and Vegetables

quinine extract A bitter flavoring used in beverages

quinine hydrochloride



A bitter, flavoring agent for food
Storage: tight container in the dark

quinine sulfate [$(\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2)_2 \cdot \text{H}_2\text{SO}_4 \cdot 2\text{H}_2\text{O}$] Used as a bitter, flavoring agent for food
Storage: tight container in the dark

quinnat Chinook salmon See **salmon**

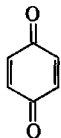
quinoa A grass with edible leaves and seed; a plant

614 quinone (1,4-benzoquinone)

whose seed is used for broth, cake, salads, and live-stock feed

See Part 2: Cereal Composition

quinone (1,4-benzoquinone) A toxic chemical used in dye manufacture; obtained by oxidation of aniline with chromic acid



quintal (metric) A measure of weight

1 quintal = 100,000 grams (g)
= 220.46 pounds (lb; avdp)
= 129.54 pound (lb; Brazil)
= 101.47 pound (lb; Mexico)
= 101.43 pound (lb; Peru)
= 101.41 pound (lb; Chile)
= 101.28 pound (lb; Argentina)
= 100 kilograms (kg)
= 1 hectoliter (hec)

quintal (Spanish) A unit of weight used in Chile, Costa Rica, El Salvador, Guatemala, Phillippines, Spain, and Venezuela

1 quintal = 0.046 metric ton

In Cuba and Peru:

1 quintal = 0.046009 metric ton

quintal (metric) per hectare (ha) Weight per unit area

1 quintal/ha = 1.486 bushel (60 pounds)/acre

= 0.892 hundred weight

(100 pounds)/acre

= bushel acre \times pounds \times 0.01121

quinua An edible cereal

quotation A price and availability statement

quotation expiration date The date beyond which quotation is not valid

quotation request A buyer's invitation to bid; it is sent to potential suppliers

qurut See **karut**

q.v. (*quod vide*) Latin for which see

R 1) Symbol used in formulas for any organic group (aryl or alkyl). 2) Symbol for degrees Rankine and degrees Réaumur. 3) Symbol for electrical resistance. 4) On labels, means that the trademark is registered with U.S. patent office *See also ohm*

R · Symbol for a free radical

R_x Pharmacists symbol for ingredients of a prescription (recipe)

Ra Symbol for the element radium

ra A sweet, cloudy white, palm sap wine

raab (broccoli-raab; rab; turnip tops) A plant that resembles small broccoli without a head and is used like spinach

rabacal A firm, panir-type cheese made from goat's or sheep's milk

rabagyongye A creamy, semisoft, mild flavored cheese that is ripened by surface bacteria

rabbit (hare; old hare; *Oryctolagus cuniculus*) A small, long-eared mammal that is a member of the hare (rodent) *Lepus* family; its meat is edible. Myxomatosis is a disease of rabbits that has been used to reduce the population *See hare*

See Part 2: Animal Foods, Composition; Bone; Liver; Meat and Meat Products Composition; Minerals, Food; Reproductive Cycle

rabbit berry *See buffalo berry*

rabbitfish (*Chimaera monstrosa*) A food fish

rabies A disease of dogs, cats, bats, and wild animals; all warm-blooded animals are susceptible; only partially controlled by vaccines

rabinowka A rowanberry (*Sorbus aucuparia*) liqueur

rabon A drug used for fly control in manure

rabong Bamboo shoots

raccoon (*Procyon lotor*) A small, nocturnal mammal that can be eaten

race A top class of wine

raceme A cluster of flowers whose stems all come from the plant's main stem; flowers attached to central axis by short stems

racemic An equal mixture of two optically active isomers that has no optical activity

rachahout A food made from acorns, sugar, and spices

rack 1) Shelving. 2) The double, intact rib portion of the forequarter of lamb, mutton, or veal carcass; unsplit primal rib of lamb (called a hotel rack); contains 6–12 ribs; rib section of lamb or veal usually containing 7 ribs

See Part 2: Lamb Chart; Lamb Cuts; Lamb Cuts and

Uses; Lamb Roasting; Lamb, Wholesale Cuts; Roasting, Time and Temperature; Veal Roasting

racked Drained or siphoned to another container leaving the sediment behind

racking Separating wine from the deposit

rack of lamb Enough meat from the lamb rib area to serve two

raclette 1) A semihard, rich, and creamy textured, cow's milk cheese from Switzerland with a full, fruity, mildly tangy taste. 2) A dish of melted cheese, potatoes, onions, and gherkins

rad A unit of ionizing radiation; it is a dosage that results in absorption of 100 ergs of energy per gram of tissue

See Part 2: Constants, Fundamental

radappertization Radiation to achieve commercial sterility similar to that obtained in the canning industry; treatment of food with ionizing radiation sufficient to reduce the number and/or activity of viable microorganism so that no spoilage or toxicity of microbial origin is detectable no matter how long or under what conditions the food is stored

radar Microwave frequencies used in cooking; wavelength from 0.1–1.0 cm

See Part 2: Waves, Energy-Producing

raden A hard, Emmenthaler-type cheese made from skimmed milk with rennet added

radian An arc whose length is equal to the radius

1 radian = 206300 seconds
= 3438 minutes
= 57.296 degrees
= 0.6366 quadrants

radian per second A measure of velocity and acceleration

1 radian per second
= 57.2958 degrees per second
= 9.549 revolutions per minute
= 0.159155 revolution per second

radian per second per second

1 radian per second per second
= 572.96 revolutions per minute per minute
= 9.549 revolutions per minute per second
= 0.1592 revolutions per second per second

radiation Radiant energy; in food irradiation, the term is limited to gamma rays, x-rays, and electron beams. 1) Energy emanating from the unstable nuclei of certain elements (radium, uranium) in the form of alpha particles (helium nuclei), beta particles (electrons), and gamma rays. Such elements are said to be radioactive. 2) Radiant energy comprising the electromagnetic spectrum and consisting of photons

See Part 2: Radiation Preservation

616 radiation absorbed dose (rad)

radiation absorbed dose (rad) An outdated term for absorbed dose. Absorbed dose equals 100 ergs of absorbed energy per gram; 1 gray (Gy) = 100 rad

radical A charged group of connected atoms that maintains this connection and acts as a unit through chemical changes, i.e., OH^- , SO_4^{--} See also **group**

radicidation Treatment of food with ionizing radiation sufficient to reduce the number of viable, specific, non-spore-forming, pathogenic bacteria to such a level that none is detectable in the treated food; radiation used to eliminate the non-spore-forming pathogenic bacteria in food; results are similar to the pasteurization of milk

radicle root See Part 2: Corn Kernel

radioactivity See **radiation**

radioisotope An isotope, either natural or artificial, that emits radiation. Carbon-14 is naturally radioactive, but many artificial radioisotopes are made by neutron bombardment of such elements as sodium, iodine, and cobalt and are used as curative agents in medicine

radiolytic Chemical decomposition as a result of exposure to radiation

radionuclide An unstable isotope that decays or disintegrates spontaneously, emitting radiation. The term radionuclide replaced the older term radioisotope

radio waves Electromagnetic energy in the form of waves from 7000 to 2×10^6 cm in length; also called Hertzian waves

See Part 2: Waves, Energy-Producing

radish (*Raphanus sativus*) A salad root plant that is usually eaten raw; has sharp, biting taste; origin Asia. 2,000–2,800 seeds per ounce; seed $\frac{1}{2}$ ounce per 100-foot row; plant 1 inch apart in rows 12–15 inches apart; 5–7 day germination period (winter radish 9 day germination period); fast maturing (matures in 50 days); yields 1 bunch per foot or row

Types:

Wild (*R. raphanistrum*)—used like horseradish

Rat-tailed (*R. caudatus*)—edible seed pods

Shape: cylindrical, round, tapered (icicle), turnip-shaped

color: dark brown, red, red and white, white

Type of radish	Shape	Variety	Season (days)	Skin color	Flesh color	Size (in.)
Spring (quick growing)						
	Flat or oblate	Burpee Hybrid	25	White	White	1 and up
		Early Breakfast				
		White		White		
	Half Long	Half Long Scarlet	28	Red	White	5
		White Icicle		White		
	Long	Cincinnati Market		Red		
		Long Scarlet		Red		
		Short Top				
	Oblong	All Season	23	White		Up to 18
		French Breakfast		Red	White	1.75–0.75
				white tip		
		Ne Plus Ultra				
		Red Boy	22	Red		0.75
	Round	Champion	28	Red	White	1.5
		Cherry Belle	22	Red	White	0.75
		Comet	25	Red	White	1
		Mailstone	28	White		Large
		(White Globe)				
		Red Price	25	Red	White	0.75
		Scarlet Globe	22	Red	White	1
		Scarlet Knight	23–35	Red		0.75
		Scarlet Prince	21–30	Red		
		Scarlet Turnip		Red,		
				white tip		
		Sparkler	25	Scarlet	White	1.25
				white tip		
		Tendersweet	24	Red		Small
Summer (matures slowly)						
	Cylindrical	Lady Finger or		White		
		White Vienna				
	Long	Long Cardinal		Red		
		Long Scarlet		Red		
		Short Top		Red		
	Long	White Strassburg		White		
	Slender					

(Continued)

Type of radish	Shape	Variety	Season (days)	Skin color	Flesh color	Size (in.)
Summer (continued)						
	Oval	Chartier or Stuttgart (also long variety)		White		
Winter (matures very slowly, larger)						
	Large (very long)	Sakurajima Mammoth	60	White		Up to 15 lb
	Long	White Globe				
	Oblong	Long Black Spanish	75 +	Black		3 × 8
		Chinese Mammoth		White		
		Chinese White	60	White	White	7 × 2
		Winter (Celestial)				
		Chinese Rare	75 +	Red		
		Winter				
	Round	Round Black Spanish	55	Black	White	4

Chill in ice water to curl; leaves used as salad; seed pods resembles capers; 30% refuse

1 bushel = 35 pounds

Medium size = $\frac{3}{4}$ – $1\frac{1}{4}$ inch diameter

Japanese radish (daikon) = 3 foot long × 4 inches in diameter

1 cup, trimmed, whole = 4.7 ounces

1 cup, trimmed, sliced = 4 ounces

Composition (raw): moisture 95%; protein 1%; fat 0.1%; carbohydrate 4%; ash 1%; pH (red) 5.8–6.5; pH (white) 5.5–5.7

Storage: Remove tops and store covered (90–95% relative humidity) in refrigerator (32°F); use in 1–2 weeks (spring) or 2 months (winter); store winter types in pits or cold cellars

See Part 2: Minerals, Food; Minerals, Plant or Animal Tissue; Nitrate, Vegetables; Plant Foods, Composition; Planting Density; Root Crop Characteristics; Storage; Sugar, Vegetables; Vegetables, Classification; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetable Storage; Vegetable Yields

radish, black A large, black-skinned radish; resembles the turnip or rutabaga and is often cooked before eating

radish, pickled Pickled Japanese radish or daikon (*Raphanus sativus*)

radium (Ra) A radioactive metallic element; at. no. 88; mass number of most stable isotope 226; isotopes 223, 224, 226, 228; Group IIA of Periodic Table; oxidation state +2
electron configuration 2–8–18–32–18–8–2
orbit K L M N O P Q

radius 1) One of the fore shank bones associated with the ulna. 2) Distance from the center of a circle to its circumference, e.g., one-half the diameter, or from the center of sphere to its surface

See Part 2: Bone

Radnor A hill breed of British sheep

radon (Rn) A gaseous radioactive element; at. no. 86; mass number of most stable isotope 222; noble gas

group of Periodic Table; oxidation state 0
electron configuration 2–8–18–32–18–8
orbit K L M N O P

radurization Treatment of food with ionizing radiation sufficient to enhance its keeping quality by causing a reduction in the number of viable, specific, spoilage microorganisms; radiation to reduce numbers of spoilage bacteria and extend keeping quality of food

raffinose (melitose melitriose) ($C_{18}H_{32}O_{16}$) A trisaccharide made up of fructose, glucose, and galactose; found in cottonseed, beets, and cereals. Relative sweetness 32 (sucrose = 100)

See Part 2: Sugar, Legumes

ragi 1) Gray-white, dried balls of starter containing bacteria, molds, and yeast on starch or cereal base; used as inoculum for lao-chao, sake, tape, and other fermented foods. 2) Africa millet or finger millet; a small grain that can be made into flour See **millet**

ragi beras A starter culture used to inoculate fermented foods

ragi ketjap A starter culture used to inoculate soy sauce

ragi-peuyeum A starter culture used to inoculate tape

ragi-roti A starter culture used to inoculate nan

ragi-tempe A starter culture used to inoculate tempe

ragout 1) A thick, savory stew of meat, vegetables and spices. 2) A garnish

ragusano 1) A type of caciocavallo cheese 2) A hard, sweet or sharp, provolone-type cheese made from cow's milk; sometimes smoked or stored in olive oil; when old it can be used for grating

ragweed (*Ambrosia artemisiifolia* L.) An annual weed

rail Continuous metal used for transport or as a barrier; overhead track on which rollers or trolleys move carcasses; minimum of 2 ft from fixed portion of building (3 ft for heavier traffic); height: sausage cages, $7\frac{1}{2}$ ft; headless hog and calves, 9 ft (12-in. trolleys); beef quarters, $7\frac{1}{2}$ ft

raimie A fiber crop

rain beetle (*Pleocoma* spp) $2\frac{1}{2}$ -inch long grubs that are white with brown heads; will attack pear tree roots

rainbow trout (*Salmo gairdneri irideus*) A North American, light delicate meat, very light, delicate, excellent flavor, freshwater, 5–10 ounces, fin fish; a lean game fish; also raised commercially in fish farms in northwestern United States, Denmark, and Japan

raised Yeast is added to dough

raisin A dried (mostly sun-dried) grape; may be dried on the vine, or ripe bunches are cut and dried; grapes used are usually wine grapes because of higher sugar content and firm flesh

Color:

Dark—natural color

Light—bleached, seedless raisin

Grape type:

Black corinth; zante current—tiny seedless raisin
Golden seedless Thompson—light color; sulfured to retain color

Muscat of Alexandria (muscatel)—large; dark; sweet; seed removed; not seeded, loose; not seeded, clusters

Sultana (sultanina)—smaller; yellow tinge; round; tart; usually seedless

Thompson seedless—sweet flavored; thin skin; most popular; purple; seedless; oblong

Current (not the berry) is a mutation of the corinth grape; the name Zante comes from the Greek island of Zakynthos where the current first grew

1 pound (lb) raisins = 4 lb, fresh grapes

1-lb package

= $2\frac{1}{2}$ – $2\frac{3}{4}$ cups, seedless [1 cup = 150 grams (g) or 5.2 ounces (oz)]

= 2 cups, chopped seedless (190 g or 6.7 oz)

= $3\frac{1}{4}$ cups, seeded (1 cup = 140 g or 5 oz)

= $2\frac{1}{2}$ cups, chopped seeded (1 cup = 180 g or 6.4 oz)

1 cup = 4.7–5.3 oz

Composition (raw): moisture 17–24%; protein 1–3%; fat 0.2–0.5%; carbohydrate 64–77%; ash 2%; pH 3.8–4.0

Raw—at 12% moisture a grape becomes a raisin

4 tsp sugar per 0.25 cups

Defect action level—average of 5% showing mold; average of 40 mg sand and grit per 100 g; 10 insects or equivalent and 20 *Drosophila* (fruit fly) eggs per 8 ounces

Storage:

High temperature—will dry out

High humidity—will cause sugar to crystallize

Cool temperature—can be stored for 2 years

After opening refrigerate in an air tight container; freeze for longer storage. If sugar crystallizes, soak in hot water for 15 min See also **currant**; **sultana**

See Part 2: Food, Composition; Fruit Composition; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Water Activity, Organisms and Food

raisin bran A breakfast cereal made from wheat bran, flake, and other wheat products and containing raisins; 1 cup = 2 ounces

Composition: protein 7–8%; carbohydrates 74–80%; fat 1–4%

raisin bread A bread containing a minimum of 50 parts or raisins by 100 parts of flour; a tea bread containing raisins; minimum of 3 ounces raisins per pound loaf

raisin, crown Size of Muscat raisins

	Cannot pass screen opening smaller than
1 crown	$\frac{12}{32}$ inch
2 crown	$\frac{17}{32}$ inch
3 crown	$\frac{21}{32}$ inch
4 crown	Cannot pass through $\frac{21}{32}$ inch
5 crown	Extra large or jumbo
6 crown	

raisin pie

$\frac{1}{5}$ of 9-inch pie = 320 calories

raisin, puffed Muscat raisins processed so they are not sticky and remain loose in the box

raisin, seedless 1) Sultana. 2) Seedless dried grape

raisin, seedless white See **sultana**

raita Yogurt with cucumber, mint, onions, and spices

rajadane A wine fermented from *Alstonia venenata* or *Mimuscops hexandra* grapes

rakefisk A mild-flavored trout

raki An herb liqueur; a type of arrack beverage

rakia An herb liqueur

rajika An herb liqueur

rakorret A mild-flavored, salted, salmon, trout, *Salmo*, or perch

rakshi A rice beer

ralgro A growth-promoting implant used on slaughter steers and heifers

rallarsnabb gilde (club) A dry, uncooked, smoked Norwegian sausage (salami) made from medium chopped, medium seasoned, beef, pork, and reindeer that is fermented and stuffed into an artificial casing

ram An uncastrated male ovine animal (sheep) of any age that shows secondary sexual characteristics
See Part 2: Sheep Market Classes and Grades

rambol cheese A mild processed, dessert cheese made from cow's milk; often flavored with hazelnuts or walnuts

Rambouillet A fine-wool breed of sheep developed in France and Germany, but originating from the Spanish Merinos; they have white lips and hooves and the rams have horns (also a polled strain); ewes are without horns

See Part 2: Sheep Breeds

rambutan (*Nephelium lappaceum*) A large south-east Asian tree that produces clusters of plum-sized ($2 \times \frac{1}{2}$ inch), red to yellow fruit covered with red or yellow soft, long, hairlike spines; the white translucent edible part is a fleshy aril, in the center of which is a single pointed seed; the fruit has a sweet-acid taste and may be eaten raw or stewed

See Part 2: Fruit Classification; Fruit Storage; Saturated Fatty Acids

ramekin An individual-size, baking dish

ramie (China grass; grass linen; rhea; *Boehmeria nivea*) A perennial fiber producing plant or shrub in which the inner bark of the stems produces one of the strongest plant fibers known; used to make coarse fabrics and cordage; the leaves and tops are high in protein and are used as livestock feed

rampion (*Campanula rapunculus*) A biennial (or perennial) weed or pot herb or vegetable whose white fleshy tap root when young is boiled and used in salads or as a vegetable

ram rack Entire male lamb from weaning to 1st shearing

ranchero "Country" or "cowboy" style food

rancid Having a foul odor or taste similar to that of an old oil, due to degradation caused by oxidation or bacteria; staleness; odor of C-9 and -10 aldehydes; fats that have decomposed (often oxidation) and have an unpleasant, stale smell or taste; rancidity is evident when only 0.05–0.10% of the weight of fat has reacted with oxygen; also destroys fat-soluble vitamins

See Part 2: Spoilage, Fat in Food; Spoilage, Protein Foods

rancidity A stage of fat oxidation characterized by sharp, acid, and pungent off-flavors and odors

random An impartial (without system bias) sampling; each sample has an equal opportunity of being selected

randomization Interesterification of fat

randomized group comparisons Two groups of equal size (approximately equal variance)

$$\text{Pooled } \Sigma x^2 = \Sigma x^2 \text{ (1st group)} + \Sigma x^2 \text{ (2nd group)}$$

$$\text{Ho: } \mu_1 - \mu_2 = 0 \quad \text{or} \quad \mu_1 = \mu_2$$

$$t = (\bar{x}_1 - \bar{x}_2) \sqrt{\frac{n(n-1)}{\text{pooled } \Sigma x^2}}$$

n = number in a group

\bar{x}_1 = mean of group 1

μ_1 = mean of population 1

$df = 2(n-1)$

Confidence limits on the difference

$$\begin{aligned} \bar{x}_1 - \bar{x}_2 - t_{.05}(s_{\bar{x}_1 - \bar{x}_2}) \\ \leq \mu_1 - \mu_2 \leq \bar{x}_1 - \bar{x}_2 + t_{.05}(s_{\bar{x}_1 - \bar{x}_2}) \end{aligned}$$

$$(s_{\bar{x}_1 - \bar{x}_2}) = \sqrt{\frac{\text{pooled } \Sigma x^2}{(n-1)n}}$$

s^2 = See mean square

Unequal numbers per group

$$t = (\bar{x}_1 - \bar{x}_2) \sqrt{\frac{n_1 n_2 (n_1 + n_2 - 2)}{(n_1 + n_2) \text{ pooled } \Sigma x^2}}$$

$$s_{\bar{x}_1 - \bar{x}_2} = \frac{\text{pooled } \Sigma x^2 (n_1 + n_2)}{n_1 n_2 (n_1 + n_2 - 2)}$$

$$df = n_1 + n_2 - 2$$

n_1 = number in group 1

\bar{x}_1 = mean in group 1

random mating Allowing mating to occur at random

random sample A sample drawn so that every item in the lot has an equal chance of being selected

range 1) The difference between upper and lower limits of a variable. 2) Naturally low-productivity, vegetated areas used for grazing (rangeland)

rangeland Land (usually in the western U.S.) that is used for grazing of animals

rangiport A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

rangpur A red-skinned, citrus fruit that has orange flesh and is high in acidity

rangy Body too long

Rankine (R) A temperature scale based on the absolute zero of the Fahrenheit scale; 0° Rankine = -460°F See also **absolute temperature**

ranking test Panelists receive three or more coded samples and are asked to rank them on a specific characteristic

rank preference A ranking of coded samples from the one you like best to one you like the least

ranu A starter culture used to inoculate sake

rape (cole, coleseed; *Brassica napus*, *B. campestris*) An herb belonging to the wallflower family; an annual grass of the mustard family used for hog pasture

Part of plant	Use
Root	Vegetable
Seed	Oil (35–50%)
Seed cake	Livestock feed
Stem and leaves	Livestock feed
Stem and leaves	Salad or greens

620 rape (cole, coleseed; *Brassica napus*, *B. campestris*)

Composition of seed cake: protein 35–40%; carbohydrate 20–25%; fiber 12–16%; ash 5–7%; pH 5.5–6.0
Weight: 50–60 pounds per bushel
Seeding: 3–8 pounds per acre
See Part 2: Seed, Chemical Composition; Seed, Germination; Unsaponifiable Matter

rape meal A slow release fertilizer

Meal	Composition				
	Dry matter (%)	Protein (%)	Fiber (%)	Fat (%)	Ash (%)
Seed					
mechanically extracted	92	36	12	7	7
Seed					
solvent-extracted	91	37	12	1.7	7
Boiled, summer seed					
mechanically extracted	94	35	15.2	7	7
Boiled, summer seed					
solvent-extracted	92	40	9	1	7
Turnip, seed					
mechanically extracted	94	35	13	7	7
Turnip, seed					
solvent-extracted	91	37	12	2	6

rapeseed oil (colza oil) Called mustard oil in India; a vegetable oil expressed or solvent-extracted from rapeseed

Composition:

Arachidic—1%
Behenic—1%
Eicosenoic—10%
Erucic—25–50% (varies with variety)
Linoleic—13–15%
Linolenic—1–6%
Oleic—17–32%
Palmitic—1–4%
Stearic—1%
Tetracosenoic—0.5%

Properties

Acid number—0.34
Iodine value—81–110
Melting point— – 9°C
Refractive index (15.5°C)—1.474–1.476
Saponification value—165–180
Saturated fatty acids—3–8%
Specific gravity 20°/4°C—0.9114
Titer—10–18°C
Unsaponifiable—1.5%

See Part 2: Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Rapeseed Oil, Triglyceride Mole Percent Com-

position; Saturated Fatty Acids; Spoilage, Fat in Food; Titer, Fats and Oils; Tocopherols; Unsaturated Fatty Acids

rapeseed protein concentrate (RPC) Highest nutritional quality (PER 3.0–3.5) of all plant proteins and contains only a trace (< 0.2%) of glucosinolates

rare (meat) A state of “doneness” at which the internal beef temperature is 140°F; center of meat is still red in color

See Part 2: Beef Degrees of Doneness; Beef Roasting; Broiling Time and Temperature

rarebit A cheese and toasted bread mixture often containing ale or beer

rare earth element An element with atomic number from 58 through 71, that comprises the lanthanide series of Group IIIB of the Periodic Table

ras A provolone-type cheese made from cow's milk

rascasse A fish used primarily for stew or soup

raschera See **nostrale**

rasher A thick or thin slice of bacon or raw ham that is fried or broiled

No. 3–4—thin
No. 5–6—medium
No. 7—thick

raspail A yellow, angelica-, calamus-, and myrrh-flavored, digestive liqueur

raspberry (black cap; *Rubus idaeus*; *R. stigosus*)

An aggregate fruit used for food; the canes produce a berry comprised of numerous round one-seeded drupelets that are contained close together in a small core; the fruit may be red, yellow (white raspberries), black or purple (black-red raspberries)

Types:

Black (*Rubus occidentalis*)—stronger flavor than red; a good shipper

Allan
Black Hawk
Bristol

Morrison

Everbearing

Fall bearing

August Red—ripens earlier

Heritage

Purple (hybrids of black and red)

Amethyst

Clyne

Purple Autumn

Red—delicately flavored

Fallred

Hilton

Latham

Thornless Canby

Summer fruiting

Raspberry cultivar	Color	Size	Quality	Characteristics
Allegheny	Black	Medium-large		Vigorous, productive
Allen	Black	Large	Good	Vigorous, preserves
Amethyst	Shiny, purple	Large, round	Good, firm	Vigorous, hardy
Augustred	Red	Medium		August, hardy, medium vigor
Black Hawk	Black	Large	Firm	Very productive, hardy
Brandywine	Purple	Large-very large	Good, tart	Vigorous, hardy
Bristol	Black	Medium-Large	Good, firm	Vigorous, hardy, heavy bearing
Canby	Red	Large		Vigorous, hardy, thornless
Citadel	Red	Large	Firm	Medium vigor
Clyde	Purple	Large	Tart	Vigorous, hardy
Cumberland	Black	Large	Good, firm	Vigorous
Dundee	Black	Large		Vigorous, hardy
Fairview	Red	Large	Good	Vigorous
Fallgold	Yellow		Sweet	Old canes—June New canes—August Everbearing, hardy
Fallred	Red	Medium		Everbearing
Haida	Red	Medium		Everbearing
Heritage	Red	Medium	Fine, firm	strong cane, heavy crop
Hilton	Red	Large		
Huron	Black	Large		Hardy, vigorous
Latham	Red	Medium	Average	Hardy, fresh, jam
Meeker	Red	Large		Vigorous
Munger	Black	Large		
Newburgh	Dark red	Large	Firm	Very productive
New Logan	Black	Medium	Good	
Plum Farmer (Farmer)	Black	Large	High	Hardier than most drought resistant
Puyallup	Red	Large	Good	Vigorous, hardy
Reveille	Red	Large	Good	Medium vigor
Scepter (Scepter)	Red	Large		Vigorous, hardy
Sentinel	Red	Medium-Large		Vigorous, hardy
September red	Red	Large	Sweet, firm	Autumn
Sodus	Purple-red	Large	Firm	Heavy bearing, midwest
Southland	Red	Medium		Medium vigor
Sumner	Red	Medium		Vigorous, hardy
Taylor	Red	Large	Good	Vigorous, hardy
Willamette	Red	Large	Good	Very productive vigorous

Yellow (related to red)

Amber
Fall Gold
Gall Gold

They are consumed fresh, cooked, canned, frozen, or made into jams, jellies, and drinks. Bearing age 2 years; yield per plant 2 pounds. Juice is a popular drink

Canned style:

Black, packed in syrup
Black, packed in water
Red, packed in syrup (good color)
Red, packed in water

Frozen style:

Black
Red packed in sugar syrup

622 raspberry (black cap; *Rubus idaeus*; *R. stigosus*)

Equivalents:

- 100 pound (lb), fresh = 17-23 lb, dry
- 24 quart crate = 36 lb
- 1 crate [24 pints (pt)], fresh = 24 pt frozen
- 1 pt, frozen = 1 pt, fresh
- 1 lb, fresh = 4 servings
- 1 pt, fresh = 13 ounces (oz), frozen
- = 4-5 servings
- 10 oz, frozen = 2-3 servings
- 1 cup, canned = 8.8-10 oz
- 1 cup, raw, red = 123 grams (g)
- 1 cup, without caps and stems = 123 g
- 1 servings = 0.75 cup

Defect action level: average microscopic mold count of 60%; average 4 larvae per 500 g or average of 10 insects (larvae or other insects) per 500 g (excluding thrips, aphids, and mites)

Composition (raw): Moisture 82%; protein 1%; fat 1%; carbohydrate 15%; ash 0.5%; pH 3.2-3.7; vitamin A in red is 130 IU per 100 g; ascorbic acid in red is 24 mg/100 g

Storage: Short term (7 days), 31°F, 85-90% relative humidity; long term (1 year), -10°F

See Part 2: Canned Yield; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Frozen Food Storage; Fruit Classification; Fruit Composition; Fruit Frozen Yield; Fruit Harvest Dates; Fruit Servings Per Pound; Minerals, Food; Rot Spoilage; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Fruit; Wine, Sweet

raspberry cane borer

Host: raspberry, blackberry, and some roses

Damage: canes are girdled and wilt

Control: burn infested canes and use insecticide

raspberry, canned In addition to raspberries, may also contain natural and artificial flavors

Type: black, red

Amounts of sucrose in syrup:

- Extra light—11-15%
- Light—15-20%
- Heavy—20-27%
- Extra heavy—27-35%

raspberry crown borer

Host: raspberry, blackberry, loganberry, and boysenberry

Damage: bores into lower cane or crown area; reduces cane vigor

Control: burn infested plants and use insecticide

raspberry flavoring A synthetic flavor mixed with fruit juice, extract, water, and alcohol; used with red coloring

raspberry leaf Used as an herb and for tea

raspberry leaf curl A virus disease spread by small leaf-feeding aphids

Symptoms: leaves are rounded and curled; new canes are dwarfed

Control: use control methods recommended for raspberry mosaic

raspberry mosaic A virus disease, widespread except on Pacific coast; causes more severe damage on black and purple than on red raspberries

Symptoms: small, deformed leaves with large green blisters; cane growth is stunted

Control: plant state-certified raspberries free of mosaic diseases; remove and burn infected plants

raspberry vinegar A mixture of raspberries, vinegar, and sugar used for flavoring beverages and diluted and used as a beverage

rasping Fine, stale, bread crumbs

rustegat A fish- or meat-filled, fried, wheat flour, dough pie

rat (*Mus*) A destructive and disease-carrying rodent Type (U.S.):

Alexandrian rat (roof rat; *Rattus rattus alexandrinus*)—Gulf states, seaport

Black rat (ship rat; *Rattus rattus*)—southern U.S.

Brown rat (barn rat; bush rat; gray rat; Norway rat; sewer rat; water rat; *Rattus norvegicus*)—northern U.S.

Rats are carriers of bubonic plague, leptospiral jaundice (Weil's disease), trichinosis

rat acrodynia See pyridoxine

ratatouille A vegetable stew that includes eggplant, garlic, green pepper, olive oil, squash, and tomatoes

rate of passage The time from ingestion to excretion

ratio The quotient of a value divided by another of the same type

ration A fixed amount of food and water for individual consumption; food consumed in 24 hours; a fixed allowance of a specific food or combination of foods made available to certain individuals or categories of individuals

ratio-scaling An estimation of magnitude of a characteristic for a sample; an assigned number is given to the first sample. Each additional sample is given a score in relation to the first sample

ratoons See sugar cane

rattail (*Macrourus* spp.) A food fish

rattle Part of forequarter of cattle consisting of the arm, brisket, shank, and short plate; in veal and lamb it consists of breast, shank, and shoulder

rattlebox A plant having a toxic principle See Part 2: Poisonous Plants

rattleran A corned beef made from the end of the brisket to the plate; often contains some fat and bone

rauchsalam A dry, uncooked, smoked Swiss sausage (pepperoni) made from fine, medium, or coarsely chopped, heavily seasoned beef and pork that is fermented and stuffed into a beef or artificial casing or not stuffed into a casing

raven's beak See Part 2: Bone

ravigote 1) An egg- and mayonnaise-based sauce used on fish. 2) Mixture of burnet, chervil, chives, parsley, and tarragon

ravioli An Italian dish made from a mixture of finely ground, well-spiced (carrots, celery, mushrooms, onions) meat (often beef or chicken) and cheese cooked inside a noodle pasta (small square or round envelopes with the edges crimped); often cooked in a tomato sauce

See Part 2: Microwave Processing Time

ravison oil A type of rapeseed oil from Black Sea area

See Part 2: Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics

raw Natural state; not exposed to heat; unchanged state; uncooked

rawboned Underfinished

rawhide Untanned skin

raw milk Milk that is not pasteurized

ray A food fish (*Raja* spp.):

Blonde—*R. brachyura*

Cuckoo—*R. naevus*

Painted—*R. microcellata*

Sandy—*R. circularis*

Shagreen—*R. fullonica*

Spotted, homelyn—*R. montagui*

Starry—*R. radiata*

Thornback, roughback—*R. clavata*

Undulate, marbled—*R. undulata*

rayless goldenrod A plant having a toxic principle
See Part 2: Poisonous Plants

rayon 1) A dry, hard Emmmenthaler-type grating cheese. 2) Fiber made from regenerated cellulose, usually by the viscose process

razi A starter culture used to inoculate rice beer

raznici Pork and veal grilled on skewers

razorback Thin, narrow-back hogs

razor shell (*Solen siliqua*) A 6 inch bivalve

Rb Symbol for the element rubidium

RBC Red blood cells

See Part 2: Blood

RDA See recommended daily allowance

Re Symbol for the element rhenium

re- A prefix meaning back or again

reach The difference between average merit of flock and average merit of those selected to be parents of the next generation

reactant One of the original chemicals in a chemical reaction

reactivity The ability to undergo chemical change

reactor Cattle reacting to tuberculin test

ready-to-cook poultry Poultry free from protruding pinfeathers and vestigial feathers (hair or down) and from which the head, feet, crop, oil gland, trachea, esophagus, entrails, mature reproductive organs, and lungs have been removed, and with or without the giblets; suitable for cooking without need of further processing. Ready-to-cook poultry also means any cut up or disjointed portion of poultry or other parts of poultry such as reproductive organs, head, or feet that are suitable for cooking without need of further processing

ready-to-eat Prepared for consumption; precooked; may be eaten without further heating

ready-to-eat ham A ham that has reached an internal temperature of 148°F and held to at least this temperature for 2 hours See also **smoked meat**

ready-to-serve See **cooked**; **smoked meat**

ready-to-slice ham A ham that has been tenderized but must be cooked further before eating; internal temperature has reached approximately 142°F

reagent 1) A chemical compound used in laboratory analysis to identify specific constituents of the material being analyzed. 2) Designation of a grade of chemical purity; a purity suitable for analytical use; it will shown lot analysis or maximum limits of impurities See also **grade**

See Part 2: Reagents, Normal Solutions

real rate of interest Interest earned after deducting the average rate of inflation

ream

1 ream = 500 sheets

rearrangement See **interesterification**

Reaumur (R) A measure of temperature; zero Reaumur is the melting point of ice and 80° Reaumur is the boiling point of water

$$^{\circ}\text{R} = ^{\circ}\text{C} \cdot \frac{4}{5}$$

$$^{\circ}\text{R} = (^{\circ}\text{F} - 32) \frac{4}{9}$$

$$^{\circ}\text{C} = ^{\circ}\text{R} \cdot \frac{5}{4}$$

$$^{\circ}\text{F} = (^{\circ}\text{R} \cdot \frac{9}{4}) + 32$$

rebate A discount offered as a buyer's refund after original payment

reblochon (an imitation is known as brizecon)

A French, semihard to semisoft, cheese made from whole cow's milk with rennet added; soft, buttery consistency with a mild nutty flavor; a round, flat, creamy texture; medium flavored, washed, reddish brown or golden crust cheese; aged 1 month

See Part 2: Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content

receme A cluster of flowers having stems coming from the main stem

receptor A cell with increased irritability to certain stimuli

recessive The tendency of a gene not to express itself, usually because of dominance from another gene

rechauffe Recooked, reheated or recombined food

recioto A sweet, Italian wine

recipe (receipt) Details given for preparation of food; a list of ingredients to be used in a food product, with instructions for blending and cooking

reciprocity The practice of giving preference to suppliers who also are customers of the buying firm

recollet A cow's milk cheese

recombinant derived bovine growth hormone (bSTH) Increases milk production and mammary growth in cattle

recombinant DNA molecule (spliced genes) DNA fragments from two different species are spliced (by highly selective enzymes) together. Transformation is inserting the new hybrid DNA into a host cell. The hybrid DNA is passed on to daughter cells that produce a new protein

recommended daily allowance (RDA) The Food and Agricultural Organization (FAO) and the World Health Organization (WHO) of the United Nations and the U.S. Food and Drug Administration and the

624 recommended daily allowance (RDA)

Canadian Council on Nutrition and the Committee on Nutrition, and British Medical Association all publish a nutrient intake list; not all groups agree on quantities. The term RDA replaces minimum daily requirement (MDR) and is a guide to nutrient intake; energy and nutrients that will maintain a good state of nutrition in healthy people of all ages including a margin of safety to cover individual variation *See recommended daily dietary allowance; recommended dietary allowance*

recommended daily dietary allowance *See* Part 2: Beef, Percentages of Daily Recommended Allowances; Calcium, Daily Recommendations; Calories, Daily Recommendations; Iron, Daily Recommendations; Lamb, Percentages of Daily Recommended Allowances; Niacin, Daily Recommendations; Pork, Percentages of Daily Recommended Allowances; Recommended Daily Dietary Allowance; Riboflavin, Daily Recommendations; Thiamin, Daily Recommendations; Variety Meat, Percentage of Daily Recommended Allowances; Vitamin A, Daily Recommendations

recommended dietary allowance (RDA) Specified vitamins, minerals, and protein adequate for maintenance of good nutrition of a healthy person in the U.S. population; developed by NAS-NRC; they are generally higher than minimum daily requirements *See* Part 2: Ascorbic Acid; Cereals, Vitamin and Mineral Content; Recommended Daily Dietary Allowance

reconstitute To replace missing components; to restore concentrated or dried food to its original state, usually by adding water

reconstituted Returned to original form, usually by the addition of water

recording tachometer An instrument that records revolutions per minute

recorking Replacing old wine corks with new ones

recourse loan Loans that would have to be repaid in cash rather than delivering commodities

recovery *See* Part 2: Food, Water Intake

rectification Purification of an alcoholic product by repeated contact of the liquid distillate with the vapor formed in the first evaporation

rectified spirit Whiskey mixtures. In the United States, 91% alcohol (84% in England)

rectified whiskey Straight whiskey mixed with silent spirit or water and/or caramel

rectifier A device for converting alternating to direct current

Rectus abdominis Flank steak

Rectus femoris *See quadriceps*

recuit A ricotta-type cheese made from cow's milk

red 1) A herring that has been dry salted and smoked
2) A deep red type of salmon

See Part 2: Fish, Smoke-Cured; Salmon and Trout

red algae A seaweed from which agar and carrageenin are extracted *See Irish moss*

Red Angus *See* Part 2: Beef and Dual-Purpose Cattle

redbanded leafroller An insect found throughout the eastern U.S.; a greenish caterpillar about $\frac{3}{4}$ in. long; it spins a web to protect itself while feeding on grape leaves; may be controlled by spraying

red bean *See rice bean*

red beans and rice A stewlike meal containing red beans, ham bone, smoked sausage, and red peppers and served over rice

red blood cell An erythrocyte comprising $\frac{1}{3}$ of blood volume; 5 million per cubic millimeter; contains hemoglobin; cell is $8.8 \times 1.9 \mu\text{m}$ *See also erythrocyte*

red Bordeaux *See claret*

Red Brangus Red, polled, American, cattle breed based on Angus and Brahman ancestry
See Part 2: Beef and Dual-Purpose Cattle

red bream A Northeast Atlantic, food fish *See common bream; sea bream;*

red-brown earths Acid to neutral, reddish-brown, loams or clay loams

red bug *See apple red bug*

red cabbage A purple cabbage that requires longer cooking time than white or green cabbage

red caviar Salmon eggs used as a caviar substitute
See caviar

red clover (*Trifolium pratense*) A biennial clover used for hay; seed weight 60 pounds per bushel; seeding, 8–12 pounds per acre; harvest, half to full bloom; pH 6.5
Varieties: Cumberland, Kenland
Types: mammoth red, medium red
See Part 2: Nutrients in Crops

red currant (*Ribes sativum*) A hybrid (*R. petraeum*, *R. rubrum*, and *R. vulgare*) berry used in confectionery, jams, and jelly

Red Danish A dairy breed of cattle that originated in Denmark

Red Delicious A variety of apple that is in season from October to March; excellent for eating and fair for cooking; too sweet for most cooking purposes

red dog flour *See low-grade flour*
See Part 2: Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat Products Composition

red dressing A type of salad dressing
See Part 2: Salad Dressing and Mayonnaise Variations

red drum *See bass*

red fiber (red fibre) Red-colored muscle fiber; Sudan black B (lipid stain) positive

redfin (shiner; *Luxilus cornutus*; *Lythrurus umbratilis*) A small, silvery, freshwater carp

redfish (*Oncorhynchus nerka*) A red- or blue-backed salmon that is a food fish *See ocean perch*

red goatfish A red mullet, food fish found in Florida

red gram *See pigeon pea*

red grouper *See grouper*

red gurnard (gurnet) A small (maximum of 16 inches), spiny finned, saltwater fish of the *Triglidae* family used for food

red hake See **hake**

redhaven season Peach cultivars that ripen early, 3–5 weeks before Elberta

red herring Herring cured with saltpeter and heavy salt and smoked about 10 days

red hot Colloquial term for frankfurter

red-humped caterpillar A 2-in. long insect with yellow and black stripes on its body, a red head, and a bright red hump on its back near the head. The young larvae skeletonize leaves and older larvae eat the entire leaf

red in snow Pickled vegetables used for cooking with ground meat

red laver (purple laver; slouk; stoke; *Porphyra vulgaris*) Edible seaweed that may be pickled, used in soup, as a vegetable, or in salads

red mombin (ciruela; jocote; Spanish plum) A 1–2-in., red to yellow, fruit that has yellow flesh and a sweet acid flavor similar to an olive

red mouth See **grunt**

red mullet A food fish
Europe—*Mullus barbatus*
Florida—*M. auratus*

red-necked cane borer
Host: raspberry, blackberry, and dewberry
Damage: canes enlarge and swell and frequently die
Control: burn canes and use insecticide

red No. 1 A FD & C food color additive

red No. 40 A FD & C food color additive

redox An oxidation–reduction reaction; a measure of the oxidizing or reducing power of a system

red palm oil See **palm oil, red**

red pepper (cayenne; *Capsicum frutescens* L.)
Ripe pods of fresh peppers or dried, ripe fruit of capsicum; very hot to the taste
Composition standards: moisture max. 10%; ash max. 8%; acid insoluble ash max. 1%; Scoville pungency 30,000–55,000 See **capsicum**

red pepper oleoresin A deep red liquid obtained by solvent extraction of long, moderately pungent capsicum; 80,000–500,000 Scoville units

1 kg of 20,000 Scoville units = 10 kg good quality red pepper

0.6–3.9% capsaicin

Up to 20,000 maximum ASTA color units

Available: free flowing and on carriers

red pinot A red wine made from pinot grapes

Red Poll An English dual-purpose type of cattle that is hornless

See Part 2: Beef and Dual-Purpose Cattle; Gestation Periods

red rowan (*Chrysoblephus laticeps*) A food fish

red salmon See **salmon**

red sausage See **vorosaru**

red sheep The symbol of genuine, roquefort cheese

red snapper (king of the fish market; *Lutjanus blackfordi*) A lean fish caught in the Gulf of Mexico, off the middle Atlantic coast of the United States, and off Taiwan

Species: mangrove (gray snapper; Pensacola snapper)

—A 2 foot long, white, food fin fish, with moderate rich flavor, sweet taste and firm flesh; 1.5–2 pounds dressed

1 fillet = 0.25–0.6 pounds

See Part 2: Minerals, Food

red sorrel Dark brown, fermented balls of oil-rich seed used in soup and stews

red spider An insect (tiny mite) that infests certain evergreen trees, cucumbers, melons, and some greenhouse plants; a problem when weather is dry

See Part 2: Insect Control

red steenbras (*Dentex rupestris*) A food fish

red stele A fungus (*Phytophthora fragariae*) disease of strawberries and loganberries that affects the roots and causes the plant to wilt and die. Infected plants have a red stalk or root center

Control: plant resistant varieties and fumigate the soil

red stumpnose (*Chrysoblephus gibbiceps*) A South African food fish

red tide Red algae that periodically “bloom” in such numbers as to make the ocean surface appear red. They produce a strong toxin that is absorbed by shellfish in shallow waters (paralytic shellfish poison). Often occurs along North Atlantic coast See also **algae**

redtop (herds grass; *Agrostis alba*; *A. stolonifera*)
A perennial grass; seed weight 14 pounds, uncleaned per bushel; 30–38 pounds, cleaned per bushel; seedling, 5 pounds per acre; pH 5–5.5; used for hay and pasture

See Part 2: Seed, Germination

reduce To boil to obtain a smaller liquid volume

reduced acreage program See **acreage reduction program**

reduced-calorie $\frac{1}{3}$ fewer calories than conventional counterparts

reduce to Boil to concentrate and/or thicken

reducing agent A substance that loses electrons and is oxidized

reducing sugar A sugar that is easily oxidized by weak oxidizing agents (silver, mercuric, or cupric salts); it will reduce Fehling's solution and form cuprous oxide. These sugars contain a free aldehyde or ketone group (includes monosaccharides and some disaccharides); examples are glucose; fructose, maltose, and lactose

Properties:

Combine with nitrogen at elevated temperatures to cause browning (Maillard reaction)

Inhibit oxidation degradation

Help retain bright colors in food

reduction 1) A gain of electrons; the loss of a positive charge or the gain of a negative charge; loss of oxygen or gain of hydrogen. 2) To make of lesser amount or size

redware (sweet tangle; tangle; *Laminaica saccharina*; *Porphyrta laciniata*) An edible seaweed

red water Finely divided particulate matter in water giving a brown or red cast

red wine A red-colored, alcoholic beverage made by fermenting (12–14 days at 21–29°C) grape (*Vitis vinifera*) juice and skins; often stored before consumption

redwood bark See Part 2: Insulation

reed canarygrass (*Phalaris arundinacea*) A perennial grass used for hay, pasture, silage, and erosion control

reed fat Fat obtained around the third and fourth stomach

reference man A model human male between the ages of 20 and 39, who weighs 65 kg and is healthy and free of disease. He is employed for 8 hours in a moderately active occupation, spends 8 hours in bed, 4–6 hours sitting (excluding time at work), and 2 hours walking. He is adequately clothed and housed and he consumes an adequate diet in which he neither gains nor loses weight; 3000 kcal/day (12.5 MJ) is considered adequate for a 65 kg man

reference price The official average weekly market price. The EEC reference prices are based on weighted averages from the individual countries

reference protein A protein of high biological value, containing a specified pattern of amino acids that is completely utilizable for anabolic purposes

reference woman A model human female between 20 and 39 years of age, who weighs 55 kg, and is healthy and free from disease. She spends 8 hours a day in general household work, 8 hours in bed, 4–6 hours sitting, and 2 hours walking. She is adequately clothed and housed and consumes an adequate diet in which she neither loses nor gains weight; 2200 kcal/day (9.20 MJ) is considered adequate for a 55 kg woman

referendum A vote by producers of a specific commodity for a proposed program that will obligate all producers to participate

refine Removing impurities from material, e.g., sugar cane

refined lard Lard that has been bleached using fuller's earth

refiner's sugar See molasses

refiner's syrup A syrup obtained as a by-product of refining brown sugar; it is lighter in color and milder in flavor than molasses; 25% max. moisture

refining 1) Removal of fatty acids and impurities from fat; processes used: caustic soda, steaming, water wash, liquid-liquid extraction. 2) Removal of impurities from sugarcane or beet syrup by filtration, crystallization, adsorption on charcoal, etc. 3) Fine grinding and bolting of cereal grains for white flour

Refinite Trademark for silicates used to soften water See also hardness (water)

reflux A technique used in distillation in which condensed vapor (liquid) flows back downward through

the tower, thus mixing intimately with the rising vapor; this gives greater separation efficiency; also called countercurrent flow

refractive index (R.I.) The ratio of the speed of light in a vacuum to the speed of light in a substance; a number that indicates how much the direction of light is deflected when it passes through a substance; n_D^{20} is n at 20°C using the D-line of sodium as a light source. The R.I. is characteristic of a fat and saturation; it is affected by free fatty acids, oxidation, and heat treatment; the R.I. increases during frying and oxidation. Test of authenticity; used to identify fats and oil; most domestic vegetable oils range from 1.4600–1.4768

See Part 2: Refractive Indices, Fats and Oils

refractometer An instrument that uses variation in the path of light traveling through materials of different densities to determine the proper consistency or finish point of jellies

refrigerant A chemical used in artificial refrigeration. Examples: ammonia (NH₃), butane (C₄H₁₀), carbon dioxide (CO₂), ethane (C₂H₆), ethyl chloride (C₂H₅Cl), isobutane ((CH₃)₃CH), methyl chloride (CH₃Cl), propane (C₃H₈), sulfur dioxide (SO₂), and various fluorocarbons

See Part 2: Refrigerant

refrigeration Cooling, usually to near the freezing point, to preserve or prolong the keeping quality of food

refritos Refried

refuse Damaged, defective, discarded, or superfluous edible or inedible material remaining after manufacturing or industrial processes; percentage of food as purchased that is not usable or eaten; waste

regaleali White and red, dry wine produced in Sicily

reggiano cheese A superior grade of parmesan cheese made from a better grade of milk See parmesan cheese

See Part 2: Cheese Characteristics

reginette See noodles

register To position one part accurately in regard to another

regreening Oranges that turn green when they mature late in the season

regression (multiple)

$$\Sigma x_1^2 = \Sigma X_1^2 - \frac{(\Sigma X_1)^2}{n}$$

$$\Sigma x_2^2 = \Sigma X_2^2 - \frac{(\Sigma X_2)^2}{n}$$

$$\Sigma x_1 x_2 = \Sigma X_1 X_2 - \frac{(\Sigma X_1)(\Sigma X_2)}{n}$$

$$\Sigma x_2 y = \Sigma X_2 Y - \frac{(\Sigma X_2)(\Sigma Y)}{n}$$

$$\Sigma x_1 y = \Sigma X_1 Y - \frac{(\Sigma X_1)(\Sigma Y)}{n}$$

$$\Sigma y^2 = \Sigma Y^2 - \frac{(\Sigma Y)^2}{n}$$

$$D = (\Sigma x_1^2)(\Sigma x_2^2) - (\Sigma x_1 x_2)^2$$

$$b_{y_1,2} = \frac{(\Sigma x_2^2)(\Sigma x_1 y) - (\Sigma x_1 x_2)(\Sigma x_2 y)}{D}$$

$$b_{y_2,1} = \frac{(\Sigma x_1^2)(\Sigma x_2 y) - (\Sigma x_1 x_2)(\Sigma x_1 y)}{D}$$

$$a = \bar{y} - (b_{1,2})(\bar{x}_1) - (b_{2,1})(\bar{x}_2)$$

$$\hat{Y} = a + b_{1,2}X_1 + b_{2,1}X_2$$

regression coefficient (b; of sample) Unit change in the dependent variable (Y) per each unit of the independent variable (X):

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n}}{\Sigma X^2 - \frac{(\Sigma X)^2}{n}}$$

x = deviation from mean of Xs

y = deviation from mean of Ys

n = number of X or Y values

+b upward slope,

-b downward slope

See also **regression equation for significant test**

regression equation (linear)

$$\hat{Y} = \bar{y} + b(X - \bar{x}) \quad \hat{Y} = a + bX$$

\bar{y} = mean of Ys

\bar{x} = mean of Xs

b = see **regression coefficient**

$a = \bar{y} - b\bar{x}$

n = number of Xs or Ys

Sum of squares of deviation:

$$\Sigma d_{y,x^2} = \Sigma Y^2 - \frac{(\Sigma Y)^2}{n} - \frac{\left[\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n} \right]^2}{\Sigma X^2 - \frac{(\Sigma X)^2}{n}}$$

Mean square deviation from regression:

$$s_{y,x^2} = \Sigma d_{y,x^2} / n - 2$$

Sample standard deviation from regression:

$$s_{y,x} = \sqrt{s_{y,x^2}}$$

Sample standard deviation of regression coefficient:

$$s_b = s_{y,x} / \sqrt{\Sigma x^2 - (\Sigma X)^2 / n}$$

Test of significance of b :

$$t = b / s_b \quad df = n - 2$$

or test $H_0: b = 0$:

$$t = \frac{b - \beta}{s_b}$$

Confidence limits on b

$$b - t_{.05} s_b \leq \beta \leq b + t_{.05} s_b$$

$$df = n - 2$$

Confidence limits for regression line:

Confidence limits for an average on Ys for each X

$$\hat{Y} - t_{.05} s_{\hat{y}} \leq \mu \leq \hat{Y} + t_{.05} s_{\hat{y}}$$

$x = X - \bar{x}$ (calculated for each value of X)

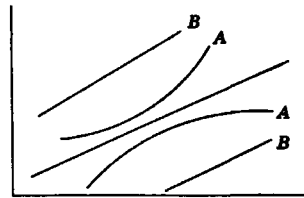
$$s_{\hat{y}} = s_{y,x} \sqrt{1/n + x^2 / \Sigma x^2}$$

$$\Sigma x^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{n}$$

Confidence limits for individual Ys for each X

$$\hat{Y} - t_{.05} s_y \leq \mu \leq \hat{Y} + t_{.05} s_y$$

$$s_y = s_{y,x} \sqrt{1 + (1/n) + x^2 / \Sigma x^2}$$



regressive A policy that works to the disadvantage of lower income persons

regular grind Medium particle size for boiled coffee
See Part 2: Coffee Granule Designation; Coffee Particle Size

regular plate See Part 2: Pork Shoulder

regular pork trimmings Consists of 50% fat

regular roll (rib eye) *Longissimus dorsi* and *multifidus dorsi* in the rib area

regurgitate The upward movement of food from the stomach back to the mouth

regurgitation Casting up of undigested material

rehydrate To soak or cook dried foods in liquid to restore lost water

rehydrated Food to which water has been restored

rehydration Replacement of previously removed water

reibkase See saanen

Reichert-Meissl (RM) number The number of milliliters of 0.1 N KOH required to neutralize the water-soluble, steam-volatile fatty acids (short-chain) hydrolyzed from 5 grams of fat; e.g., lard near 0 RM, butterfat 20-33 RM

reindeer (*Rangifer larandus*) A species of large deer with antlers; inhabits northern latitudes. A mammal used for hide, milk, and meat (resembles beef; flesh of a 3-year-old female is considered the best)

See Part 2: Milk, Mammals, Composition

reindeer milk cheese A rennet cheese

reino A golden, soft, mild, cheese made from sheep's milk

reinrose reinsdyrpolve A dry, uncooked, smoked, Norwegian sausage made from medium chopped, medium seasoned, beef, pork, goat, and reindeer that is fermented and stuffed into an artificial casing

reinsdyrpolve A moist, uncooked, smoked Norwegian sausage (salami) made from medium seasoned, medium chopped, beef, pork, goat, and reindeer that is fermented and stuffed into an artificial casing

reis Rice

reishu A melon liqueur

rejectable quality level (lot tolerance; percent defective) The level of percent defective that is always rejectable

rejection level The number in each sampling plan at which a lot is rejected for excessive defects

relative biological effectiveness (RBE) An obsolete term now replaced by the dose biological effectiveness equivalent index (H)

relative humidity Ratio of water vapor present in the air to the quantity that would be present if the air were saturated at the same temperature
See Part 2: Relative Humidity

relative standard deviation See coefficient of variation

relaxation Return to position of rest after strain

relay An electromechanical device in which a change in current or voltage in one circuit will produce a change of electrical condition in another circuit

release agent A substance to facilitate removal

release price The price of stored grain in reserve that may be sold without incurring penalties

release purchase order An order to deliver all or a portion of the items covered by a previous purchase contract

releasing hormone A hormone that initiates release of another hormone from another site in the body

relish (piccalilli) 1) A sweet mixed pickle, usually chopped or ground. 2) Olives, celery, etc., served with a meal as an appetizer. 3) Spicy or piquant items eaten with plainer foods, e.g., chili sauce, corn relish, horseradish, pepper-onion, piccalilli, tomato-apple chutney, and tomato-pear chutney

Types:

Olives

Sour relish—chopped sour pickles or sour pickles mixed with other sour cured vegetables and spices

Sweet relish—chopped sweet pickles or sweet pickles mixed with other sweet cured vegetables and spices

Vegetable relish—chopped fresh vegetables (cabbage, green beans, green tomatoes, onion, salt, spice, sugar, sweet red pepper, turmeric, vinegar, and water) placed in a jar and pasteurized

1 tablespoon = 0.5–0.9 gram

1 cup = 8.6 ounces

Composition: moisture 63%; protein trace; fat trace; carbohydrate 33%; sodium (sweet relish) 124 mg/tsp (15 g)

See Part 2: Olives and Pickles, Composition; Stabilizers, Thickeners

relleno de pollo Spiced, shredded chicken filling

rem See Part 2: Constants, Fundamental

remoudou A highly flavored, slightly salty, herve-type cheese made from cow's milk See **romadour**

remoulade dressing A dressing made from egg yolk, lemon juice, olive oil, pepper, and salt

removal torque The force required to remove a glass closure

renal Of or pertaining to the kidney

See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

rendering Freeing fat from cells by means of heat. Animals unfit for human food are rendered to obtain their fat and protein values

rendzina A black soil that is shallow and has a fine texture

reniform nematode (*Rotylenchulus reniformis*) Parasitic nematodes that reduce yield and quality of sweet potatoes

rennet Concentrated extract of rennin. Used in making some cheese; speeds curdling and keeps the curd that is formed from breaking up easily; shortens the cheese-making process, results in less acid, and larger curd cheese

Types:

Powder—rennin enzyme, sugar, and flavoring

Tablet form—rennin enzyme and salt; junket tablets extract

Use:

$\frac{1}{4}$ rennet tablet to 2 tbsp of cool water

1 tbsp of solution to each gallon of milk

See Part 2: Casings, Terms

rennin (chymosin) An enzyme produced by gastric glands and found in the gastric juices of young mammals. It is extracted from the inner membrane of the fourth stomach (lining or mucosa) of suckling calves and is used to coagulate (clot, curdle) milk to form a curd that may be made into cheese, rennet casein, junket, and rennet custards. Denatures and initiates the hydrolysis of milk protein; inactivated at 60°C; may be used to make kosher cheese if it is obtained from kosher-slaughtered animals

renutrition Treatment to restore an undernourished person to normalcy

rep 1) Unit of dosage equivalent to 93 ergs of energy absorption per gram of material of unit density. 2) A silk or wool fabric having a ribbed surface

REPD Residue Evaluation and Planning Division (commonly referred to as Residue Division) of FSIS
repletion Full

representative sample A sample selected in such a way that it tends to reflect the quality of the lot

reproduction efficiency Production of a large number of offspring in a given span of time

requijao A ricotta-type cheese made from cow's milk

requijao de norte A processed cheese made from cow's milk

reserve burgundy A full-bodied, dry wine

reserve chablis A crisp, flavorful, dry wine

reserve premiums Producers entering grain into the reserve have been eligible to add premiums to their loan rates

residue 1) The unusable portion of a product that remains after refining and separation of the valuable portion; portion remaining after removal of a part of the original. In soap making it is called foots, in wine technology lees, and in flour milling tailings. 2) The presence of remnants of a drug, agricultural or industrial chemical, or trace metal in a food animal or product

resin A hardened, brittle, transparent, or translucent material formed from the liquid of plants that have been injured. A water-insoluble (organic-soluble) mixture of terpenes and fatty acids found in coniferous trees. Synthetic resins are man-made high polymers

resistance (R) Opposition to current flow measured in ohms; power given off by resistance:

$$P = I^2 R = EI = \frac{E^2}{R}$$

P = power = watts = joules per second

I = current in amps

R = resistance in ohms

E = potential in volts

resistor An electrical device that has deliberately introduced resistance

resolution The ability of a lens to separate images

respiration 1) Cellular utilization of oxygen with production of carbon dioxide and energy. 2) Oxidation in which oxygen serves as a terminal hydrogen and electron acceptor

restaurant A public place where meals are served

rest harrow (ground furze) A plant; young shoots may be pickled in brine or eaten fresh in salads

restoration Addition of selected nutrients to food to provide the same level of these nutrients naturally present in the raw material

rest period A period of nonvisible growth, controlled by internal factors; growth will not occur, even when environmental conditions are favorable

restructured-beef, steak-like An uncooked, unsmoked, American sausage made from ground, coarsely chopped, or chunks of beef restructured by being pressed, formed, molded, or sliced

restructured food Pieces of traditional food that are formed and shaped to resemble the original whole piece

retail Sale in small quantities; sale to ultimate consumer

retail cut See Part 2: Meat Label

retained Held back, usually for further inspection

retention time (t_r) In gas chromatography, time from injection to peak maximum

retention volume In gas chromatography, the gas volume required to elute

$$V_R = (t_r)(F_c)$$

t_r = retention time

F_c = flow of carrier gas

reticulin The protein-rich fibrous connective tissue of meat closely related to collagen but highly branched; not easily digested

See Part 2: Connective Tissue Proteins

reticulum 1) The second stomach of a ruminant animal located on its left side and often called the honeycomb or fore-stomach; acts as a screening device letting only small particles into the omasum; a bovine reticulum may contain from 1 to 3 gallons; used for tripe. 2) The network of protoplasm in most cells

retinal See vitamin A aldehyde

retinene ($C_{20}H_{28}O$) The aldehyde form of vitamin A; a component of rhodopsin, a pigment of the eye See also rhodopsin; vitamin A aldehyde

retinoic See vitamin A acid

retinol See vitamin A

See Part 2: Vitamins

retort A closed vessel for thermal processing, for distillation of heavy oils, or for cooking by heat; autoclave. Retort water-treatment agents used to prevent staining of cans:

Calcium chloride ($CaCl_2$)

Diocetyl sodium sulfosuccinate ($C_{20}H_{37}NaO_7S$)

Disodium phosphate (Na_2HPO_4)

Propylene glycol ($C_3H_8O_2$)

Sodium bicarbonate ($NaHCO_3$)

Sodium carbonate (Na_2CO_3)

Sodium dodecylbenzenesulfonate ($C_{18}H_{29}NaO_3S$)

Sodium hexametaphosphate [Graham's salt; ($NaPO_3$)₆]

Sodium lauryl sulfate ($C_{12}H_{25}NaO_4S$)

Sodium metasilicate (Na_2SiO_3)

Sodium tripolyphosphate ($Na_5P_3O_{10}$)

Zinc oxide (ZnO)

Zinc sulfate ($ZnSO_4$)

retort pouch (flexible can) A flexible, heat-sealable container that can withstand the heat of sterilization. Outer layer (0.0005 inch) polyester; middle layer (0.00035 inch) aluminum foil; third or food-contact layer (0.0003 inch) propylene or ethylene

retrogradation The reverse of gelatinization

Cooked starch (smooth thick paste) $\xrightarrow{\text{retrogradation}}$ insoluble + water or serum starch

630 retropharyngeal

retropharyngeal See Part 2: Lymph Nodes, Pig

retsina A rosé wine with pine resin added; also a white wine

return to vendor Material that has been rejected by the buyer and is awaiting return to the supplier

revenir A change in color affected by cooking in a fat

reverse Inside a glass closure

reversion An undesirable change in flavor or other property

revivification Reactivation of charcoal

revolution One complete cycle of circular rotation

- 1 revolution = 360 degrees
- = 4 quadrants
- = 6.283 radians

revolution per minute

- 1 revolution per minute
- = 6 degrees per second
- = 0.1047 radians per second
- = 0.01667 revolutions per second

revolutions per minute per minute

- 1 revolution per minute per minute
- = 0.01667 revolutions per minute per second
- = 0.001745 radian per second per second
- = 0.0002778 revolutions per second per second

revolution per second

- 1 revolution per second
- = 360 degrees per second
- = 60 revolutions per minute
- = 6.283 radians per second

revolutions per second per second

- 1 revolution per second per second
- = 3600 revolutions per minute per minute
- = 60 revolutions per minute per second
- = 6.283 radians per second per second

rewit A low-fat, sour beverage made from milk whey and combined with horseradish, leek, and dill or juniper extract to produce a savory drink or mixed with sweetened orange or apple juice for a sweet drink

rex sole A white meat, very light, delicate flavor, fin fish See **sole**

Rh 1) The symbol for the element rhodium. 2) Rhesus (blood factor)

rhamnose ($C_6H_{12}O_5$) Methyl pentose sugar; $\frac{1}{3}$ as sweet as sucrose

Rheingau A region in Germany, north of the Rhine, that produces distinctive, elegant, riesling wine

Rheinhessen A region in Germany, south of the Rhine, that produces soft, aromatic wine from Sylvaner grapes

rheinischer A low-fat, high-protein, semisoft cheese made from cow's milk

Rheinpfalz (wine cellar of the Holy Roman Empire) A region in Germany, west of the Rhine, that produces full-bodied, rich, spicy wine

rheinwald See **schamser**

rhinish (hock) A Rhine wine

rhений (Re) Metallic element; at. no. 75; at. wt. 186.22; Group VIIB of Periodic Table; oxidation states +2, +3, +4, +5, +6, +7
electron configuration 2-8-18-32-13-2;
orbit K L M N O P

rheostat A variable resistor

Rhine A river in western Germany; the valley is famous for its wine produced from Sylvaner grapes, which are grown on chalk, marl, quartz, some slate, and, in some areas, red limestone soil

Rhine wine (hock) A dry, tart, white, table wine; strictly speaking, wine produced only in the Rhine valley; less strictly speaking, also wine produced in the Moselle valley and other places in Germany. Often made from Riesling grapes; keeps well; light in alcoholic content; ageing not as important as in other wines

rhiz- A prefix meaning root

rhizobia Bacteria that live in a symbiotic relationship with legumes. They live in nodules on the roots and fix nitrogen that can be used by the host plant

rhizobium A symbiotic bacteria associated with legumes. 300-51,000 cells per seed is recommended for inoculation

Rhizoctonia A type of mold

See Part 2: Mold, Food

Rhizoctonia stalk rot

See Part 2: Sorghum Diseases

rhizome A swollen, rootlike stem partially or wholly underground

See Part 2: Vegetables, Classification

Rhizopus A type of mold

See Part 2: Mold, Food; Molds, Mycotoxins; Rot Spoilage; Spoilage, Carbohydrate Foods

Rhizopus rot (*Rhizopus stolonifer*) A fungus found on avocados, peaches, strawberries, and other fruit and vegetables. On avocados held at room temperature it is quite common; the decayed area will turn brown, may or may not be covered with a white mycelium, fruit will crack and exude amber-colored liquid, and the flesh pulls easily from seed and has an unpleasant odor; fungus enters the fruit by scars; is retarded by storage at 45-50°F

rho (P, ρ) Greek letter with an English equivalent of r

Rhode Island Bent See **colonial bent**

Rhode Island Red An American class of chicken that lays a brown-shelled egg

Varieties: rose comb and single comb (also a bantam variety); both have red plumage with some black in the tail feathers, dark yellow shanks, and reddish beaks.

See Part 2: Poultry Breeds and Varieties

Rhode Island White An American class of chicken that lays a brown-shelled egg.

Variety: rose comb—white plumage, yellow shank, yellow beak

rhodesgrass See Part 2: Seed, Germination

rhodinol A mixture of terpenic alcohols, primarily 1-citronellol. Used as a roselike, flavoring agent in food; sp. gr. 0.860-0.881

Storage: full, tight, glass container in a cool, dark place

rhodiny acetate A mixture of acetates of terpene alcohols. Used as a roselike, flavoring agent in food; sp. gr. 0.894–0.908

Storage: full, tight, glass container in a cool, dark place

rhodinyl formate A mixture of formates of terpene alcohols. Used as a roselike, flavoring agent in food; sp. gr. 0.900–0.908

Storage: full, tight, container in a cool, dark place

rhodium (Rh) A metallic element; at. no. 45; at. wt. 102.91; Group VIII of Periodic Table; oxidation state +3

electron configuration 2–8–18–16–1;
orbit K L M N O

rhodope A white, brined cheese made from sheep's milk

rhodopsin (visual purple) The pigment of the eye that is sensitive to red light; comprised of opsin (a protein) and retinene

rhomboïd muscle A muscle attached to the medial surface of the scapula and to the thoracic spinous processes

Rhône A river valley region in southeast France famous for its great variety of wine

Chateaufneuf du Pape—big, full-bodied wine

Côte Rotie—light, soft wine

Tain l'Hermitage—big, robust wine

rhubarb (pieplant; Spinach rhubarb; *Rheum hybridum*; *R. rhaponticum*; *R. undulatum*; *Rumex abyssinicus*; *R. officinale*; *R. palmatum*; *R. sibiricum*) A cool-weather perennial plant whose red (sometimes green) leaf-stalks (66% edible)

are used like fruit in pies, preserves, and wine-making. Rhubarb leaves are sometimes used as a spinach substitute but are very rich in soluble oxalic acid or oxalates, which, in sufficient quantities, can act as a poison; therefore they are not often eaten and some recommend never eating them. Plant 4 feet apart in rows spaced 4 feet apart; matures in 1 year; yield 2.5 stalks per foot of row

Types:

Field (garden)—coarse, fleshy, dark red stalks; dark green leaves

Forced—light pink stalk; yellow-green leaves

Champagne

Dawes Champion

Green stalk (often forced to produce pink-red color)

German wine

Linnaeus

Prince Albert

Strawberry

Suttons' Seedless

Victoria

Red stalk

Canada red

Crimson wine—large stalks

McDonald (MacDonald)

Ruby

Valentine (Red Valentine)

Picked when 10–20 inches long; has an acid flavor

Equivalents:

1 bushel fresh = 50–55 pounds (lb)

= 24–28 quarts (qt), canned

15 lb, fresh = 15–22 pints (pt), frozen

2–3 lb, fresh = 1 qt, canned

Rhubarb variety	Stalk size	Color	Use	Season or growth
Canada Red		Red		Outdoor growth
Cherry Red	Large	Red skin and flesh	Pies, stewed	
Chipman's Canada Red	Large	Red skin and flesh		
Crimson Cherry	Giant	Red	Pie, sauce	Outdoor
Crimson White	Large	Red		Outdoor growth
Crimson Wine		Red		Outdoor growth
German Wine	Medium	Green outdoors		Indoor growth (forced)
(Mac)McDonald	Medium	Red	Sauces, pie	Outdoor growth
Ruby	Medium	Red		Outdoor growth
Strawberry	Medium	Green outdoors		Indoor growth
Sutton's Seedless	Medium	Green outdoors		Indoor growth (forced)
Valetine	Medium, 18–22 in., 1 in. thick	Red	Pie, stewed	Outdoor growth
Victoria	Medium broad thick	Green shaded with red; red stem; green outdoors	Tart flavor	18 months; indoor growth (forced)

632 rhubarb

- 1 lb, fresh or frozen (1 inch pieces)
 = 2.6 cups
 = 4 servings
 = 4-8 pieces
 = 2 cups, cooked [240 grams (g) or 8.5 ounces (oz)]

6 stalks, fresh = 14 oz, frozen

1 pt, frozen = 0.68-1 lb, fresh

1 cup, fresh, diced = 4.4 oz

1 cup, frozen = 7.8 oz

Area grown	Grades	Box
Michigan	Choice	5 lb pounds in master 50-lb box
	Small fancy	15 lb
	Fancy	
Washington	Fancy, Extra fancy	15 lb

Frozen with high proportion of sugar

Canned style:

Fancy—heavy syrup

Choice—medium heavy syrup

Standard—without sugar

Composition (raw): moisture 95%; protein 0.5%; fat 0.1%; carbohydrate 4%; ash 0.7%; pH 3.1-3.4

$\frac{1}{8}$ of 9-inch pie = 300 calories

Ripen: Uncovered, room temperature, out of sun

Storage: Uncovered (90-95% relative humidity), refrigerated (32°F); when ripe use in 3-5 days

See Part 2: Fruit Composition; Fruit, Cooking; Fruit Frozen Yield; Fruit Sauces; Microwave Cooking; Fruit; Minerals (Trace), Food; Organic Acids in Fruits and Vegetables; pH Values of Biological Materials; Planting Density; Storage; Sugar, Vegetables; Vegetables, Cooking Frozen; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetable Yield

rhubarb beet A beet-flavored, red stemmed variety of chard

rhubarb, frozen Rhubarb frozen with high proportions of sugar

rhubarb sauce A fruit sauce made from cooked rhubarb and sugar

R.I. See **refractive index**

riabenovka An after dinner cordial made from vodka and flavored with ashberries

rib 1) An area of the forequarter of beef usually consisting of the thick portion of the sixth through twelfth rib; about 9% of a choice carcass. 2) Curved costal bone of the thorax; attached to the spine

Camel—12 ribs (8 sternal; 4 asternal)

Cattle, goats, sheep, and deer—normally have 13 ribs (8 sternal, 5 asternal), sometimes 14 (14th usually floating)

Horses—18 ribs (10 sternal, 8 asternal)

Swine—14-16 ribs (7 sternal; 7 asternal, and the rest floating)

See Part 2: Beef Chart; Beef Chuck; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Rib Carving; Beef Rib Nomenclature; Beef Roasting; Beef Wholesale Cuts; Beef Yields; Bone; Bone-in Retail Cuts; Lamb, Wholesale Cuts; Meat Identification; Meat Label; Meat, Servings per Pound; Microwave Processing Time; Pork Cookery; Pork Cuts; Pork Loin Cooking;

Pork Wholesale Cuts; Potassium-Rich Foods; Roasting, Time and Temperature; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Wholesale Cuts

rib back An English term for the pork loin area from approximately the third lumbar vertebra to the third thoracic vertebra

rib cap See Part 2: Beef Rib Nomenclature

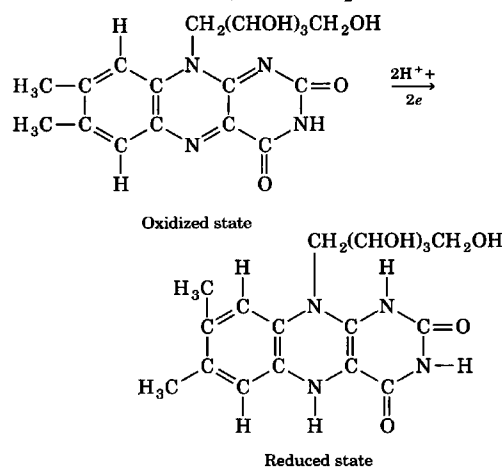
rib chop See Part 2: Lamb Yield; Pork Loin

rib eye See Part 2: Beef, Boneless Cuts; Beef Rib Nomenclature; Roasting, Time and Temperature

rib fingers Tissue between the ribs

riblets See Part 2: Lamb Cuts; Veal Chart; Veal Cuts

riboflavin (lactoflavin; vitamin B₂; vitamin G)



A water-soluble vitamin that functions in the oxidative processes that take place in the cell; it is also the growth-promoting factor of the B complex. Used as a food nutrient to maintain or improve nutritional value or as a dietary supplement or color (yellow) additive. Melting point 280°C

Sources: brewer's yeast, eggs, green leafy vegetables, kidney, legumes, liver, milk, and muscle

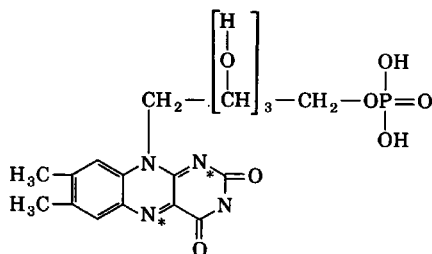
Deficiency symptoms: redness and scaling of skin in face area; loss of hair; stunted growth

Storage: tight container in the dark

See Part 2: Beans, Peas and Nuts; Beef percentages of Daily Recommended Allowances; Cereal Enrichment; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Cheese Composition; Cheese, Vitamin Content; Colors Permanently Listed; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish Composition; Flour, Extraction Rates; Food, Composition; Fruit and Vegetables Composition; Fruit Composition; Grain Analysis; Grain Products Composition; Lamb Percentages of Daily Recommended Allowances; Lemon Juice Composition; Lime Juice Composition; Macaroni and Noodles Composition; Meat Composition; Meat, Nutritive Value; Milk and Milk Products, Vitamin Content; Milk Composition; Olives and Pickles, Composition; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Recommended

Daily Dietary Allowance; Riboflavin; Riboflavin, Daily Recommendations; Riboflavin, Food; Sausage Composition; Sausage Nutritive Value; Seed, Chemical Composition; Soups, Composition; Sugars and Sweets Composition; Sweet Potato Nutritive Value; Tomato and Tomato Products, Composition; Variety Meat Percentage of Daily Recommended Allowances; Vegetable Composition; Vitamin Retention, Meat; Vitamins; Vitamin Sources, Functions, and Stability; Wheat, Parts of Grain, Vitamins; Wheat Products Composition; Wheat, Vitamins

riboflavin phosphate A mononucleotide containing riboflavin and phosphoric acid



*Take on H here

Used as a nutrient or dietary supplement

Storage: tight container in the dark

ribonucleic acid (RNA) Contains ribose; present in cytoplasm and nuclei; site of protein synthesis. A nucleotide that acts on the instructions of DNA in cells in carrying out the mechanisms of the genetic code. There are several types, namely messenger RNA, ribosomal RNA, and transfer RNA. *See also* **deoxyribonucleic acid**; **ribosome**

ribose [CH₂OH(CHOH)₃CHO] A five-carbon monosaccharide (pentose) found in nucleic acids
See Part 2: Sugar, D-aldehyde

ribosome A particle in a cell composed of ribonucleic acid and the site of protein synthesis

rib rack A wholesale cut of lamb consisting of the fifth through twelfth ribs

rib roast *See* Part 2: Beef Cuts and Uses; Beef Rib Carving; Beef Rib Nomenclature; Pork Loin Cooking

rib roll A boned and tied rolled rib

rib steak *See* Part 2: Broiling Meat: Broiling Time and Temperature

rib streak An English term for the pork belly area from approximately the third lumbar vertebra to the thoracic third vertebra

rib wing *See* Part 2: Beef, Boneless Cuts

ricard An aniseed-flavored liqueur

rice (*Oryza glaberrima*; *O. sativa*, most important) Originated in eastern and southeastern Asia. Has best quality of protein of any cereal. An important grain crop particularly in Asia; an annual cereal whose seed is used for food. Maturity: 4 weeks in nursery and 4 months in field

Growing systems

Deep water or floating rice—grown in water depth of 1–5 meters

Dry land (Indian rice, Tuscarora rice; upland rice; *Zizania aquatica*)—has higher protein content but is difficult to harvest

Standing water—hollow stem allows oxygen to reach roots; water drained a few weeks before harvest; water is used for weed and insect control

Plant height 60–180 centimeters; panicle 100–150 grains; kernels 3.5–8 millimeters (mm) length, 1.7–3 mm width, and 1.3–2.3 mm thickness

Rice name:

Brown or cured or natural on hulled rice—removal of husk (hull); contains outer layer of rice and germ (does not keep well); almost all bran retained

Coated rice—polished rice with glucose (corn syrup)-talc coating for appearance (luster) and for preserving properties

Converted—some bran retained; yellow but turns white when cooked

Enriched rice—is fortified with iron (13–26 mg/lb), thiamine (2–4 mg/lb), riboflavin, and sometimes niacin or niacinamide (16–26 mg/lb)

Paddy—rough rice; threshed (contains 40% fibrous husk)

Parboiled (called converted)—heat treated or steamed under pressure and dried before it is hulled and milled; the milled product contains more minerals and vitamins than polished white rice. Converted rice transfers much of the B vitamins from the outer layer to the grain before it is milled, retains shape, and is less sticky on cooking; yellow in uncooked state; improves nutritive value and keeping qualities

Polished or milled or white—removal of bran layers (retaining endosperm and a small portion of the embryo) and germ; all fine dust removed

Precooked—cooked and dried

Unpolished—almost white; rough surface

Unpolished white—almost all bran removed

Processing: Milling removes outer husk; pearling removes outer brownish layer (bran) and yields white grain (polished); does not have to be ground

Milled rice = 65% of weight of original paddy rice
= 45–60% head rice (whole to $\frac{3}{4}$ whole kernels)
= 10–20% broken grains
= 3% brewers rice (small broken kernels)
= 18% rice bran

Types:

Bulu—usually hairlike awns

Glutinous or waxy or sweet rice—little amylose

Indica—little cold or drought tolerance; medium-long to long grain; amylose content medium to high

Japonica—grain is short and wide; amylose content is low

Oryza glaberrima—grown only in west Africa; usually considered inferior

Size:

Long—6.61–7.5 mm; 4–5 times as long as wide

Basmati

Carolina

Java

Patna

Medium—5.51–6.6 mm

634 rice (*Oryza glaberrima*; *O. sativa*, most important)

Size (continued)

Short—5.5 mm or less; shorter and plumper
Piedmontese

Size:

Head rice—whole and some $\frac{3}{4}$ grains

Second head— $\frac{1}{3}$ & $\frac{3}{4}$ grains

Screenings— $\frac{1}{4}$ – $\frac{1}{3}$ grains

Brewers—small particles

Equivalents

100 pound (lb), milled rice = 152 lb, rough or unhulled

45 lb, rough or unhulled rice = 1 bushel

1 lb, raw = $1\frac{2}{3}$ – $2\frac{1}{3}$ cups, uncooked rice

1 lb, cooked = 2.34 cups cooked

1 cup, raw rice + $2\frac{1}{4}$ cups, water

= $2\frac{1}{2}$ –4 cups, cooked rice

1 cup, uncooked, quick cooking rice

= 3 ounces (oz)

= 2 cups, cooked rice

1 cup, uncooked, converted rice

= 3–4 cups, cooked rice

1 cup, uncooked, long grain rice

= 4 cups, cooked rice

1 cup, long grain, precooked = 2 cups, cooked

1 cup, uncooked wild rice = 3–4 cups, cooked rice

1 cup, brown rice = 3.7 oz

1 cup, instant, long grain = 3.8 oz

1 cup, regular = 7.0 oz

1 cup, brown, parboiled = 6.3 oz

1 cup, white instant, cooked, no butter = 5 oz

1 cup, regular, cooked = 7.2 oz

Composition (rough rice): bran 8–14%; brewers 2–5%;

head rice 37–65%; hull 17–21%; loss and trash 1–3%;

polish 1.8–4%; screening 3–11%; second heads 3–12%

	Composition					
	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Fiber (%)	Ash (%)
Bran, bran with germ	9–10	12–13	13–16	51	11.6	10–12
Brown, cooked					1.7	
Grain ground	11	8	2		9	4.7
Groats, polished	11	7–7.2	0.4–1	79	0.4	0.5–1
Groats, polished broken	11	7.6	0.7		0.6	0.8
Hulls	8	3	0.7		39.6	19
Instant, dry	10	7	0.2	82		
Polished, cooked	72–73	2.8	0.1	24.4	0.7	0.3
Rice, brown (entire kernel without husk)	12	7–8	1–2	77–79		1

	Amylopectin (%)	Amylose (%)
Glutinous, waxy	100	0
Nonwaxy, milled		
Low	Above 80	Below 20
Medium	75–85	20–25
High	Below 75	Above 25

14.8 MJ/kg edible energy value

Cereal flakes, 1 oz (about 1 cup) = 110 calories

Cereal puffed, (about 2 cups) = 115 calories

Cereal, presweetened, 1 oz (about $\frac{2}{3}$ cup) = 110 calories

Cereal, shredded, 1 oz (about $1\frac{1}{8}$ cup) = 115 calories

Food value: Excellent source of starch; protein content lower than most grains; thiamine present in bran;

parboiling before milling causes some of thiamine to diffuse through the grain; lysine is the first limiting amino acid and threonine is the second

Storage: Moisture content should be 12.5%

2) To pass through a sieve

See Part 2: Calories, Daily Recommendations; Cereal Composition; Cereal Enrichment; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Food, Composition; Grain Products Composition; Microwave Processing Time; Minerals, Food; Nicotinic Acid, Food; Nutrients in Crops; Plant Food, Composition; Portion Size; Protein Factors; Rice Kernel; Seed, Chemical Composition; Seed, Germination; Soups, Composition; Starch, Microappearance; Storage, Dry; Storage Times; Thiamin, Food; Tocopherols; Vitamin A, Food; Water Activity, Organisms and Food

rice bean (red bean; *Vigna umbellata*) A short-term perennial; dry seed is used as a pulse and green seed and pods are eaten as a vegetable; the crop is also grown for green manure and fodder

rice beer A low alcohol beverage made by fermenting (30 hours at 20–28°C) milled rice (*Oryza sativa*) and water after cooking and adding a regai starter; the liquid is then poured off of the solid material

rice blast disease A fungus (*Pyricularia oryzae*) that produces spots or lesions on rice

rice bran Bran, germ, and some hulls of rice; outer layers of rice removed during polishing; relatively high in protein; often used as livestock feed

Composition:

Bran of parboiled rice—35% oil

Bran polish, includes germ—15–20% oil

0.8 pounds per quart; 26 pounds per bushel. See also bran

See Part 2: Fat and Oils, Fatty Acid Composition; Iodine and Saponification Values; Titer, Fats and Oils; Unsaponifiable Matter

rice bran pig See Fungcheng

rice bran wax Used as a food coating agent or as a masticatory base in chewing gum; melting point 75–80°C; saponification value 75–120

Storage: tight container

rice, brown A long-grain, tan-colored, nutlike flavored, kernel rice that has had only minimal processing (least processed) in which only the hull and a small portion of the bran were removed; considered a whole grain product that contains the germ and the outer layers of the grain where the B vitamins and minerals are located; can be substituted for white rice. It takes longer to cook, with slightly more liquid than white rice; when cooked the inner portion becomes tender but outer portion is slightly crunchy

Storage: refrigerate, in tightly closed container

rice, cereal

Types:

Ready to eat

Oven puffed rice

Puffed rice

Rice flakes

Rice mixed with other cereals

Shredded rice

Uncooked (e.g., cream of rice)—farina-like products, often enriched with vitamins and minerals

1 cup, crisp rice cereal, crushed = 1.1 ounce

rice, converted See **rice, parboiled**

rice extract agar See Part 2: Microorganism, Media

rice flakes Breakfast cereal that may be eaten cold
1 cup = 1.1 ounce
Composition: moisture 3%; protein 6–7%; fat 1%; carbohydrate 85–88%
See Part 2: Grain Products Composition

rice flour A starchy flour made from white rice; fundamentally rice starch; rice ground to a very fine powder; maximum of 30% may be used in bread baking; waxy rice flour is made from waxy rice and contains amylopectin, which is useful in frozen products
1 cup, stirred, spooned = 5.6 ounces

rice, glutinous (sweet rice) A dessert rice low in starch

rice grade Milled white rice: U.S. Grades 1, 2, 3, 4, 5, 6; brown rice: U.S. Grades 1, 2, 3, 4, 5

rice, grits Coarsely ground brown rice grains See also **grits**

rice, ground Slightly coarser than rice flour

rice, Honduras A long slender rice with a sweet taste

rice, instant
Storage: tightly closed container on shelf; long storage time See **rice**

Rice Krispies A ready-to-eat cereal made by Kellogg
1 cup = 1 ounce

rice, long Rice flour noodles that are thin and opaque

rice, long-grain Length is 4–5 times as long as it is wide; when cooked the grains separate and are fluffy See **rice**

rice macaroni Macaroni made from rice; thin and flexible and similar to vermicelli except whiter in color See **spaghetti**; **vermicelli**

rice, medium-grain Rice that is shorter and plumper than long-grain; will cling and works well for molding. Used for risotto, molds, or rice desserts

rice, minute See **rice, quick cooking**

rice miso A flavorful paste made from soybean and rice

rice oil Oil extracted from rice bran and polish

rice paper A white, glossy edible material made from the pith of a Formosan tree

rice, parboiled (converted rice) Rough rice that is processed by steam or hot water before milling, which causes it to be hard, translucent, and shiny and causes a migration of vitamins from the hull to the center of the rice. The hull is then removed by milling
Non-parboiled rice contains 10% of the thiamin of raw rice
Parboiled rice contains 75% of the thiamin of raw rice
Parboiled rice is intermediate in food value between highly milled (polished rice) and brown rice. To cook this rice requires more liquid and a longer time and it cooks dryer and fluffier than regular rice See **rice**

rice polish The inner bran layers and some endosperm of the rice grain; finer and heavier than bran; high in fat and carbohydrates

rice, precooked Rice that is milled, cooked, and dried; water rehydrates this rice quickly and it re-cooks fast

rice, puffed A breakfast cereal made of exploded rice kernels; a cereal that may be eaten cold
1 cup = 0.5 ounce
See **puffed rice**
See Part 2: Grain Products Composition

rice, pulverized Rice that is cooked and served as a hot cereal

rice, quick cooking Milled rice that is precooked in such a manner that the grain remains porous
Types:
Precooked—requires up to 15 minutes to cook
Minute—requires 2 minutes to cook

rice, short-grain Cooks softer than long grain; more tender and clingy than longer grain. Used for sushi

rice, shredded A breakfast cereal
Composition: moisture 3%; protein 5%; fat 0.3%; carbohydrate 88%

rice stick A noodle-like product used in soup, as a separate course in meat sauce, as a crunchy granish when deep fried, or used as a rice substitute

rice vinegar (rice wine vinegar) Vinegar made from rice starch. The product is made by the alcoholic and subsequent acetous fermentation of sugars derived from rice or a rice concentrate, without distillation

rice, white
Storage: tightly closed container on shelf; long storage time See **rice**

rice, white, regular-milled Outer layer and bran layer removed until grain is white

rice, wild (*Zizania aquatica*) See **wild rice**

rice wine See **sake**

ricey When a cauliflower head begins to separate; granular appearance of the curd in cauliflower. Caused by flowerettes beginning to open

richebourg A perfumed, flavored red wine

ricing 1) Cutting or sieving into small particles, e.g., potatoes. 2) Early stage of flowering (e.g., cauliflower)

ricinoleic acid An unsaturated fatty acid found in castor oil.
See Part 2: Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Oils, Seed and Fruit

ricketts (rachitis) A bone condition in growing animals caused by a shortage of phosphorus and/or calcium and/or vitamin D See also **osteomalacia**

rickettsia Bacteria that have the size and characteristics of viruses

rickettsiae Obligate intracellular parasites found in various insects; generally smaller and less well defined morphologically than bacteria

rickey A beverage containing gin, lime juice, and carbonated water

ricotone A ricotta-type cheese made from cow's milk whey with skimmed milk

ricotta A soft, moist, and grainy white cheese that is bland, semisweet, and saltier in flavor than cottage cheese; made from whey and whole or skimmed milk, or whole or part-skimmed milk. A mild, cooked whey cheese often combined with skimmed milk, whole milk, or cream; has a nutlike flavor; often eaten fresh (unripened), but may be dried and used for grating; packaged in containers

Composition	Made from part skimmed milk	Made from whole milk
Moisture (%)	72-75	71-72
Protein (%)	11-13	11-13
Fat (%)	8-10	10-13
Carbohydrate (%)	5-6	2.5-3.5
Fiber (%)	0	0
Ash (%)	1-4	1-4
Salt (%)		1.2

Storage (ripe or fresh ricotta): cover, refrigerate and use in 5-7 days

See Part 2: Cheese Characteristics; Dairy Products, Composition II

ricotta pecorino A mild, soft, white, Italian cheese made from sheep's milk whey

ridder A medium-flavored, semisoft cheese

ridge bone The raised area of the scapula (blade bone in shoulder)

ridgling A male with one or more testicles in the body cavity or with only one testis See **cryptorchidism**

riesengebirge A soft, cheese made from goat's milk with rennet added

riesling 1) A collective term for the varieties of white grapes that are fermented to yield Rhine wine. 2) A fruity, white, Italian wine

rig An imperfectly castrated pig

riga bread A malt-flavored rye, and wheat bread

rigatoni Ribbed tubes of pasta
1 cup = 2 ounces

See **macaroni**

rigid container A sturdy container (e.g., can) that can withstand some internal and external pressure without damage

rigor mortis Post-mortem rigidity; stiffening of muscles after death

rigotte A disc-shaped, soft, bland, French ricotta-type cheese made from cow's or goat's milk; may have an annatto (red) exterior

rigotte de pelussin A truncated cone-shaped, ricotta-type cheese made from cow's or goat's milk

rigotte du condrieu A disc-shaped, ricotta-type cheese made from cow's or goat's milk and coated with yellow annatto

rigs Cryptorchids

rijst Rice

rijst(t)afel A Javanese meal of many courses; rice table

riksost (farmer's cheese) A Swedish hard cheese

rilette A fried pork preparation or fried chitterlings; often finely ground

rillon (rillaud, rillot) A whole rilette

rind 1) The outer coating of a fruit, vegetable, pork, bacon, or cheese; the skin on fat tissue; removal is called rinding 2) Coating caused by drying of the surface

rinderpest An infectious disease of cattle, sheep, etc., caused by a virus, and often fatal; only partially controlled by vaccines

rindfleisch Beef

rindfleischknackwurst A moist, uncooked, smoked eastern German sausage made from coarsely chopped, heavily seasoned, beef and stuffed into a beef casing

rindfleischsalami A dry, uncooked, smoked eastern German sausage (pepperoni) made from medium chopped, heavily seasoned beef that is fermented and stuffed into a beef or artificial casing

ring bologna A sausage product made from beef and pork; it is placed in a casing and the ends tied together

ringbone An unsoundness in horses

ring compound An organic compound in which the carbon atoms are arranged in the form of closed rings of various shapes, i.e., hexagonal (benzene), pentagonal (heterocyclic compounds), or "boat" or "chair"-shaped (alicyclic compounds)

Ringer's solution 100 cc of boiled, purified water with the addition of 820-900 mg NaCl, 25-35 mg KCl, 30-36 mg CaCl₂

ringneck (black duck; *Anas rubripes*) An edible, freshwater duck

ring nematode (*Criconemoides* spp.) A parasitic nematode that reduces the yield and quality of sweet potatoes

ring pox A virus of apricot trees that causes leaves to develop irregular rings and angular spots

ring spot 1) A virus infection of apricot trees; rings and yellowed patterns on leaves may develop. Rare on most apricot hybrids. 2) A virus disease affecting red raspberries on the Pacific coast and in the northeast U.S.

Symptoms: In the spring a few leaves show pale green rings that disappear as canes mature; infected plants grow slower than normal. Caused by tomato ring spot virus spread by the dagger nematodes (xiphinema species)

Control: plant certified stock free of tomato ring spot virus on land free from xiphinema species

3) A virus disease of sour cherry trees that cause holes in leaves and poorer quality fruit

ringworm A fungus infecting the skin of domestic animals and man

rinnen A sour milk cheese flavored with caraway seed

rioja A sparkling wine; a red wine; a rosé wine or a white wine

riola A strong, soft cheese made from sheep's or goat's milk

rio oso gem season Peach cultivars that ripen late, after Elberta

ring Mature; ready for use

ripe fruit rot See **brown rot**

ripening Maturing; in aging of beef it is the enzymatic and bacterial changes that occur as the meat is held in cold storage and its benefits are an improvement in tenderness and flavor; in cheese the same as aging and causes the development of characteristic flavor and texture; to approach or come to full development and become usable as food; the composite of the processes that occur from the latter stages of growth and development through the early stages of senescence and that result in characteristic aesthetic and/or food quality as evidenced by changes in composition, color, texture, or other sensory attributes See **aged meat**; **aging**; **cured cheese**; **ethylene**

ripe rot A fungus disease of the American, bunch grape; more prevalent in the southern U.S.; may appear as the fruit begins to mature

Control: Regular sprays for black rot and downy mildew See **anthracnose**

rippled Variegated flavors in ice cream

ris 1) Rice 2) Sweetbread

riserva An aged, chianti wine See **chianti**

rishtaya A lamb dish containing noodles and lentils

risi e bisi An Italian dish made with rice and peas

riso Rice

risotta alla milanese Rice cooked in wine and broth, flavored, and topped with cheese

risotto A creamy, firm, rice dish that often contains cheese; Italian rice mixed with vegetables

rissole 1) Ground meat in a deep-fat-fried pastry envelope (small meat pie). 2) To obtain a crispness by heating. 3) Brown slowly in fat

ritual food A food that is used during religious or magic ceremonies and has acquired a symbolic value

Ritz A tradename for a cracker

1 cracker = 3 grams

Sodium 32 mg per cracker

river pear See **anchovy pear**

riverside grape A black, sour, American grape that must be cooked before eating

rivet wheat See **wheat**

riz Rice

rizi Rice

rms Root mean square; a value used to measure the amount of ac current that will produce the same amount of heating in a resistance as will an identical dc current

Rn Symbol for the element radon

RNA Ribonucleic acid

See Part 2: Histochemical Test

roach A freshwater, carplike, food fish
Europe—*Leuciscus (Rutilus) rutilus*
U.S.—*Leiostomus xanthurus*

roadster A horse usually of the standard-bred breed shown only at the trot or walk; the trot has three speeds: jog, road gait, and trot at speed; either pulls a bike or buggy

Roanoke A variety of soybean

roast 1) To cook meat by dry heat (do not add water or liquid), uncovered in an oven (325°F) or on a spit over open flame; the term applies specifically to meats, whereas "bake" refers to bread, cake, etc., as well as to meat. After removing from oven, large cuts of meat will continue to cook for 15 min and temperature will rise 5°F in the center. 2) Main course of a meal, usually roast meat. 3) A thick cut of meat

Storage: Refrigerate uncooked meat in coldest part of refrigerator; original wrapper for 1–2 days; unwrap and cover loosely for 3–5 days

See Part 2: Animal Foods, Composition; Beef Chart; Beef, Cooking; Beef Cuts; Beef Degrees of Doneness; Beef Roasting; Beef Yields; Braising Time; Frozen Food Storage; Lamb Cuts; Lamb Cuts and Uses; Lamb Roasting; Meat Composition; Meat, Frozen Storage; Meat, Servings per Pound; Pork Chart; Pork Cookery; Pork, Cooking; Pork, Cooking Methods; Pork Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Pork Storage; Portion Size; Potassium-Rich Foods; Poultry Class; Poultry Roasting; Roasting Meat; Roasting, Time and Temperature; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting; Vitamin Retention, Meat

roast beef

1 cup, chopped, cooked roast beef = 4 ounces

See Part 2: Meat and Meat Products Composition

roast beef hash A cooked, unsmoked, American, jellyed and/or specialty sausage available in links, loaves, or canned

roast beef loaf A medium to coarsely chopped, cooked, unsmoked, American, jellyed and/or specialty sausage available in links, loaves, or canned

roaster (roasting chicken) Tender-meated with soft, pliable, smooth-textured skin and breastbone cartilage that may be somewhat less flexible than that of a broiler or fryer; poultry of size suitable for roasting.

Chicken—bird of either sex, 3 to 6 months old; weighing above $4\frac{1}{4}$ pounds

Duck—bird of either sex, about 16 weeks old

roasting ear Green ears of early maturing, field corn

roba Yogurt

robalo (*Centropomus undecimalis*) A saltwater fish

robbiole See Part 2: Cheese, Vitamin Content

robiola A soft cheese made from cow's or goat's milk

Rob Roy (Scotch Manhattan) A mixed drink containing $1\frac{1}{2}$ oz (1 jigger) scotch, $\frac{3}{4}$ oz sweet vermouth, and a dash of angostura bitters; stir with ice, strain, and add a cherry or lemon twist

Rob Roy's pleasure Venison served with chestnut puree and red currant jelly

638 rocamadour cheese

rocamadour cheese A small, rennet cheese made from goat's or sheep's milk

roccal A quaternary ammonium detergent that is quite effective as a disinfectant. Concentrations usually used are 1:1000 and 1:5000

Rochelle salt Sodium potassium tartrate used as buffer and sequestering agent. *See* cream of tartar

Rock Alpine A breed of goat
See Part 2: Goats, Milk Breeds

rock and rye A mixture of rock candy syrup and spirits (e.g., rye) to which a slice of lemon is added

rock bass (*Ambloplites rupestris*) A food fish *See* striped bass

rock candy Large hard crystals of sugar made by slow evaporation *See* sugar, candy

rock cod (*Epinephelus gigas*) A saltwater fish

rock cork *See* Part 2: Insulation

Rock Cornish fryer, roaster, or hen A small breed of poultry obtained from a cross of a Plymouth Rock hen and a small game or bantam cock; cross between a purebred Cornish and a purebred Rock chicken without regard to the weight of the carcass involved; however, the term fryer, roaster, or hen shall apply only if the carcasses are from birds with ages and characteristics that qualify them for such designation
1 medium hen = 1 pound

Rock Cornish game hen (Cornish game hen) A young, immature chicken (usually 5–7 weeks of age) weighing not more than 2 pounds, ready-to-cook weight, which was prepared from a Cornish chicken or the progeny of a Cornish chicken crossed with another breed of chicken

rock eel (*Anarrhicas lupus*) A species of catfish

Rockefeller Foundation A philanthropic organization with offices at 1133 Avenue of the Americas, New York, N.Y. 10036

rocket (roquette; rucola; *Eruca sativa*; *E. vesicaria*) An annual, cresslike herb whose peppery leaves are used in green salads; older leaves are cooked like spinach

rocket salad Winter cress

rockfish A general name for several saltwater fish; over 60 species of rockfish or rock cod are caught along the Pacific coast. A light meat, firm, fine-textured, light to moderate flavor, fin food fish
Black rockfish—*Sebastes mystinus*
Blue rockfish (northeast Pacific)—*Sebastes mystinus*
Brown rockfish (China)—*Sebastes inermis*
European rockfish—*See* catfish or wolffish
Groupers
Japanese rockfish—*Sebastes marmoratus*
Pacific
Bank rockfish
Black rockfish
Bocaccio
Canary rockfish
Chilipepper
Cowcod
Olive rockfish
Shortbelly rockfish

Pacific (continued)
Speckled rockfish
Vermillion rockfish
Widow rockfish
Yelloweye rockfish
Yellowtail rockfish
Red rockfish—*Sebastes ruberrimus*
Rockfish (northwest Pacific)—*Sebastes flammus*
Rosy rockfish (northeast Pacific)—*Sebastes rosaceus*
Striped bass
See bass; striped bass
See Part 2: Vitamin A, Fish; Vitamin D, Fish

rock hind (*Amelanchier ovalis*) A saltwater grouper

rock medlar (grape pear; savoy medlar; sweet pear) A small, blue-black, fruit of the shad bush similar to junberry
Amelanchier bartramiana
A. canadensis
A. florida
A. laevis
A. oblongifolia
A. ovalis

rock phosphate Mined phosphate rock containing from 20–34% P_2O_5 ; may contain toxic amounts of fluorine (average 3.5%)

rock salmon (*Pollachius virens*; *Zonichthys falcata*) Skinned dogfish; a large saltwater fish, available fresh, dried, and smoked; sometimes used for any white fish; amberfish

rock salt Large crystals of sodium chloride. Rock salt added to firewood produces an orange flame.
1 cup = 11–16 ounces
See salt

rock sole (*Lepidopsetta bilineata*) A white meat, light to moderate flavor, fin, food fish

rock weed *See* hair seaweed

rock wool (mineral wool) An insulating material made by blowing air through molten slag or rock
See Part 2: Insulation

Rocky Mountain whitefish (*Coregonus williamsoni*) A freshwater, white fish

rocroi A strong, blue-black (matured 2–3 months in wood ashes), low-fat, semisoft cheese made from cow's milk with rennet added; lactic acid bacteria develops; shaped into cones, discs, or pyramids

rod (perch; pole; rd) 1) A unit of measurement of length
1 rd = 198 inches (in.)
= 25 links (Gunter's)
= 16.5 feet (ft)
= 5.5 yards (yd)
= 5.02921 meters (m)
= 0.25 chain (Gunter's)
= 0.005029 kilometer (km)
= 0.003125 statute mile
= 0.002714 U.S. nautical mile
4 rd = chain (Gunter's)
40 rd = furlong
2) A cylindrical-shaped microorganism
See Part 2: Bacteria, Molds and Yeasts

rodent (*Rodentia*) A gnawing mammal, e.g., mouse, rat, squirrel

rodenticide A poison used to kill rodents *See* **pesticide**

See Part 2: Chemical Poisoning

roe 1) A solid mass of fish eggs; roe of some female fish (e.g., cod, haddock, lake herring, salmon, shad, sturgeon, and whitefish) are used for food

Roe of female—Hard roe or spawn.

Roe of male—soft roe or milt.

Cooking: parboil for 2–5 minutes, dip in cornmeal or in eggs and crumbs, and fry

2) European deer

See **caviar (roe of sturgeon or salmon)**

See Part 2: Fish Cross Section; Plant and Animal Poisoning

roentgen (R) The dose of gamma or X-radiation that produces ion pairs carrying one electrostatic unit of charge per cubic centimeter of standard air, surrounded by air; it equals 88 ergs per gram of air *See* **X-ray**

See Part 2: Constants, Fundamental

roentgen equivalent man (rem) An obsolete unit of dose equivalence; now replaced by the Seivert (Sv)
1 Sv = 100 rem

roentgen equivalent physical (rep) An obsolete term for radiation dose in physical material other than air; it equals 93 ergs per gram *See* **rep 1)**

rogeret des cevennes A valençay-type cheese made from goat's milk and cured for 1 month

roggelchen A rye or rye and wheat flour, dark, shiny crust roll

rognons Cock's kidneys

rogosa agar *See* Part 2: Microorganism, Media

rohe krakauer A pork and beef cervelat

rohe polnische A moist, uncooked, smoked eastern German sausage made from coarsely chopped, heavily seasoned, pork and stuffed into a pork or artificial casing

rohu (*Labeo rohita*) An Indian, food fish

rohwurst A beef or pork or beef and pork salami; a finely to coarsely chopped, uncooked, smoked or unsmoked, American sausage available in medium to large diameter links or rings or large diameter casings for slicing

roi, le A small, creamy, soft, triple-cream (75% milk fat) cheese

rojak A salad made of cooked vegetable (beans, bean sprouts, cabbage, carrots) and raw fruit (pineapple) and served with a sauce

rokadur A blue cheese made from ewe's milk

rokepalse A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork and stuffed into a pork casing

rokpol A blue cheese

rokt kjottpalse A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into a beef casing

rokt medister A moist, cooked, smoked Norwegian sausage made from finely chopped mildly seasoned, beef and pork and stuffed into a beef casing

roktmedvurst A beef and pork salami; a semidry or dry, uncooked, smoked Swedish sausage made from medium chopped, medium seasoned, beef and pork sausage, fermented and stuffed into an artificial casing

roletti A spiral ($\frac{1}{2}$ inch) shaped pasta

roll (bun) 1) A small breadlike baked product, usually served hot; a small, wheat or rye, or mixed, aerated piece of nonsweet bread; it has a crisp crust and a soft-crumble inside texture

Shapes:

Bow tie—make a dough rope, $\frac{1}{2}$ inch in diameter and 8 inches long and tie into a knot

Butterfan—place five or six vertical strips into a cup and allow to rise and bake

Cloverleaf—allow three balls to rise and bake in a cup; make a X cut in top of dough, let rise, and bake

Crescent—roll a wedge of dough and curve into a half moon

S-roll—make a dough rope, $\frac{3}{4}$ inch in diameter and 9 inches long; form into an S shape, let rise, and bake

Styles:

Plain

Dinner—a miniature, hearth-baked loaf

Finger (long)—5 inches long, 1 inch wide; tapering ends

Frankfort (Columbin)—similar in shape to finger but larger and longer; rounded ends

Parker house (pocketbook)

Plain—round and square

Sandwich (barbecue)—round (5–6 inches in diameter)

Sweet

Butterfly

Butter horn

Cinnamon

Coffee pretzel

Pecan

Raisin

Composition, brown and serve: sodium 138 mg per roll (28 g); refrigerated dough: sodium 342 mg per roll (35 g)

2) To make flat with a rolling pin, e.g., pastry dough.

3) A hard cheese made from whole cow's milk with rennet added

See Part 2: Baked Products, Frozen Storage Life; Calories, Daily Recommendations; Frozen Food Storage; Grain Products Composition; Portion Size

rollatine Meat rolled around a stuffing of prosciutto, cheese, and spices

rolled Compressed between rollers

rolled in Light, flaky, bakery goods made by rolling out dough after fermentation and making alternate layers of dough (5 parts) and fat (or shortening; 1 part)

rolled oats A breakfast cereal made by steaming oat kernels, crushing them on rollers, and then drying;

the cereal is heated just before serving. Contains little gluten and is often used in combination with wheat flour to make baked products

Regular rolled oats—dehulled, steamed, flattened, and dried oats

Quick oatmeal—made from oat groats that are steel-cut into pieces after dehulling and flattened thinner than regular rolled oats

Instant or cook-in-the-bowl—prepared like quick oatmeal except 0.1–1.0% of a gum is placed on the surface to speed up hydration.

1 pound, uncooked = 5 cups
= 12 ($\frac{2}{3}$) cups servings

1 cup, dry = 100 grams

Composition (dry): fiber 9%

See also **oat**

rolled rib roast Boned standing rib roast that is folded into a roll and held together with strings

rolling Excessive side shoulder motion in horses

roll mix A dry commercially prepared mixture containing most roll ingredients; only liquid items need to be added

Storage: room temperature away from heat of the range or refrigerator

roll mop Herring that are split, boned, spiced, and rolled around a pickle or onion; they are marinated or preserved in a brine (salt, spices, sugar, vinegar, and wine)

rollet A strong-flavored, soft, heart-shaped or cylindrical cheese made from cow's milk and covered with a red crust

rolpens A moist, cooked, unsmoked Dutch sausage made from coarsely chopped, medium seasoned, beef and stuffed into a beef casing

romadour (remoudou; romatur) A limburger-type cheese

romadur A soft to semisoft, ripened, strongly flavored blue cheese made from partly skimmed or whole cow's milk; has some holes; ripened by surface bacteria

romaine lettuce (cos) Lettuce with a strong nutty flavor and coarse spoon-shaped leaves; has an elongated head See also **cos**; **lettuce**

romanesti A low-alcohol, Bordeaux-type, red wine

romanian brand sausage An uncooked, smoked sausage made with cured lean pork; requires trichina treatment

romano A hard, pale yellow, grainy, sharp, Italian cooking or grating cheese made from skimmed milk; similar to parmesan but with a saltier flavor; it has a yellowish white interior and black coating; shape is round with flat ends; flavor is sharp to piquant

1 cup, grated = 3 ounces

Composition: moisture 30.5–32%; protein 31–32%; fat 26.5–30%; carbohydrate 3–4%; fiber 0%; ash 5–6.7%; salt 4.6%

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Dairy Products, Composition II

romatur See **romadour**

Rome Beauty A variety of apple that is in season from December to April; is an excellent to good cooking apple and a fair eating apple

Romeldale A breed of sheep originating in the western United States by crossing a Rambouillet ewe with a Romney ram

rommegrot Sour cream used as porridge and flavored with cinnamon and sugar

Romney A long-wool breed of sheep originating in southern England

See Part 2: Sheep Breeds

roncal A yellow, salted, smoked, close grain, pressed, hard, sharp, cheese made from sheep's milk

roodeberg A red wine

rooibosch tea A noncaffeine tea

rookwurst A moist, uncooked, smoked Australian sausage made from finely chopped, medium seasoned, beef and not stuffed into casings

room Cream

roos A ball-shaped cheese made from sheep's or goat's milk and matured 6 months

rooster A mature male chicken one year or older that has developed spurs and comb See also **cock**

See Part 2: Poultry Cooking, Frozen; Poultry Roasting

root The subterranean parts of plants; that part of a plant that grows downward into the soil and furnishes nourishment by absorbing water, nitrogen, etc. Many types are food sources (beet, potato, etc.) See Part 2: Corn; Storage, Dry; Storage Times; Sweet Potato and Irish Potato; Vegetable Composition; Vegetables, Classification; Wastes, Agricultural and Industrial

root beer Caramel-colored carbonated water and sugar and flavored with starchy root beer extract (fermenting and infusion of sassafras, wintergreen, sarsaparilla, and ginger) or root beer concentrate (oil of sassafras and oil of sweet birch or oil of wintergreen)

1 fluid ounce = 30.8 grams
= 12.5 calories

See Part 2: Beverage Carbonated, Ingredients; Flavors, Beverage

root crop See Part 2: Root Crop Characteristics

root knot Occurs in tomatoes and is caused by worm-like, nematode larvae that feed on roots; causes enlargements (root knots or galls) that vary from $\frac{1}{16}$ to $\frac{3}{4}$ inch in diameter. Severe infestations will reduce yield 80%; damage is most severe in sandy soils

Control: plant resistant varieties

root knot nematode Small microscopic worms (parasitic nematodes) that affect tomatoes, sweet potatoes, and other plants. Infected plants become yellow, stunted, and wilt easily; yield is reduced; roots can be galled, pruned, matted, or decayed. Several types cause galling (or knots) on roots and cracking of tubers

Cotton—*Meloidogyne incognita acrita*

Northern—*M. hapla*

Oriental or peach—*M. javanica*

Peanut—*M. arenaria*

Control: soil fumigants or nematicides

root-lesion nematode (*Pratylenchus* spp.) An extremely small worm that attacks strawberries and most other cultivated crops, most trees and ornamentals, and many weeds by entering the roots to feed

Control: plant stock that is substantially free of root-lesion nematodes; soil fumigation is also recommended

root mean square See *rms*; *mean square*

root rot 1) A rice disease caused by any one of several fungi including *Fusarium* spp.; *Pythium* spp. and *Rhizoctonia solani*; nematodes including *Hirschmanniella oryzae* and *Tylenchorhynchus martini*.

Control: crop rotation, balanced fertilizing, and other cultural practices or draining

2) A disease (Texas root rot) that causes a firm brown rot (*Phymatotrichum omnivorum*) in sweet potatoes

rootstock (stock) Rootlike underground stem or rhizome; part of root used in plant propagation; root material to which other varieties of fruit are united by grafting or budding; a thickened stem that lies horizontally near the surface of the ground and is filled with plant food. It is not a root

root vegetable A group of vegetables in which the edible part is under ground, e.g., beet, carrot, celery, chervil, dasheen, parsnip, potato, radish, rutabaga, salsify, sweet potato, turnip, turnip-rooted parsley

rootworm See *grape rootworm*

rope 1) A measure of distance

1 rope = 20 feet

2) Gelatinous threads produced by bacteria in bread

ropy A slimy condition in bread caused by spore-forming bacilli of the subtilis-mesentericus group

ropy milk A thick, fermented, low-medium acid (pH 4.4-4.7), cow's milk

roquefort An unpressed, soft, uncooked, blue-veined cheese made from unsalted sheep's milk; mold-ripened (*Penicillium roqueforti* or *P. glaucum*); matured in caves (46°F, high humidity); often 4.5-5 pounds. Used for cooking dressing, and eating; it has a sharp, rich, pungent, salty flavor and a creamy but crumbly texture. Sold in cylindrical shape; ripened 2-5 months by internal molds. American roquefort is made from cow's milk.

1 inch cube = 0.6 ounces

Composition: moisture 39-40%; protein 21-22%; fat 30-33%; carbohydrate 2%; fiber 0%; ash 5-7%; salt 4%; pH 4.7-5.9; sodium 513 mg/oz

Storage: can be frozen (0°F) in small quantities if used for salads or dressings; use in 6 months

See Part 2: Cheese Characteristics; Cheese Composition; Cheese, Vitamin Content; Milk and Cheese Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

roquefort dressing A temporary emulsion of oil, seasoning, vinegar, and crumbled roquefort cheese.

See Part 2: French Dressing Variations; Salad Dressing and Mayonnaise Variations

roquette An annual, 8 foot herb that produces mildly pungent, strong-flavored greens

rosa rugosa See *dog rose*

Roscommon A long-wool, British breed of sheep

rose A fresh, fruity, rose-colored wine

roseapple A fragrant fruit

Varieties:

Egg-shaped—red in color

Pear-shaped—white to pink in color

See *Australian native plum*

rosé aux fruit Medoc, white wine mixed with the extract of several fruits

rose Bulgarian (attar of roses; trice otto oil) An extract of rose petals used as a flavoring and as colorant

rose chafer A small white grub in its larval stage. In beetle stage (gray or tan beetle, reddish brown head; long-legged and slender; $\frac{3}{8}$ inch long) they are general feeders (buds, flowers, foliage, and fruit); they damage many kinds of fruits and ornamental plants

Control: Apply a spray containing methoxychlor

rosé d'anjou Well-balanced, semidry, French (Loire river), pale rosé wines

rosé de marsannay A rosé wine

rosefish (*Sebastes marinus*) A north Atlantic haddock See *ocean perch*

See Part 2: Vitamin A, Fish

rose hip Urn-shaped seed receptacle at the base of the blossom, used to make jam, soup, syrup, and tea

See also *dog rose*

roselle (*Hibiscus sabdariffa*) An annual herb whose large yellow flowers are used as food; also a source of a fruit acid to make a cranberry-like jelly or fermented into a drink. The fruit resembles a cranberry and the yield is 8-10 pounds/plant. Bark contains a useful fiber

Type: red and white See *rozella*

rosemary (*Rosa Maria; Rosmarinus officinalis* L.)

A hardy, 3 foot, perennial (85 days) evergreen of the mint family; has grayish leaves used dried or fresh as an herb; leaf looks like a 1-inch pine needle. Used as a spice for flavoring meat, savory dishes, and salads.

Aroma: camphoraceous, herby

Flavor: aromatic, warm, woody, bitter

Forms:

Cracked—usually cracked with particles varying up to $\frac{1}{4}$ inch

Ground—leaves are dried and ground into a fine powder; if the stems are also ground, the product will have a reduced oil content

Whole

Source: Portugal and Yugoslavia

Composition (dry): moisture 7-10%; protein 4-5%; fat 15-16%; carbohydrate 64-65%; fiber 16.5-18.5%; ash 6-7%; average volatile oil 1.3% volume per weight (1.2% volume per weight minimum)

Has antioxidative activity

See Part 2: Essential Oils; Flavoring Agents, Natural

rosemary butter Soften one-half stick of unsalted, sweet butter and add 1 tbsp finely minced fresh rosemary or $\frac{1}{2}$ tsp of dried rosemary; cream together, adding a few drops of lemon juice

rosemary jelly A jelly made from an infusion of rosemary. Infusion is prepared by using 2 $\frac{1}{2}$ cups boiling water over 1 cup of fresh rosemary; cool and strain 2 cups of rosemary infusion and add $\frac{1}{4}$ cup of

642 rosemary jelly

vinegar or apple cider and $4\frac{1}{2}$ cups sugar; heat until sugar is dissolved; then add $\frac{1}{2}$ bottle of liquid pectin and boil for 1.5 minutes; remove from heat and add 1–2 drops of food coloring if desired. Fill sterilized glasses and seal with melted paraffin

rosemary oil A volatile oil obtained by steam distillation of *Rosemarinus officinalis* flowers; used as a rosemary, flavoring agent in food; sp. gr. 0.894–0.913 Storage: full, tight container in a cool place

rose oil A volatile, essential oil obtained by steam distillation from *Rosa alba*, *R. centifolia*, *R. damascena*, or *R. gallica* flowers; used as a roselike, flavoring agent in food; sp. gr. 0.848–0.864 30°/15°C Storage: full, tight container in a cool, dark place See Part 2: Essential Oils; Flavor Ingredients, Taste and Flavor Type

rose petal Candied for food; used for preserves and jams; used to flavor pies; made into fritters; made into brandy or wine; in some cases, crystallized

rose petal jam A preserve made from cabbage roses

rosette 1) Double blossom caused by fungus *Cercospora rubi*, which affects blackberries. Symptoms are short, broomlike growths that emerge along infected canes; flower buds are larger, coarser, and redder than usual; petals are wrinkled and twisted; blossoms fail to form fruit

Control: remove wild blackberries from vicinity of cultivated blackberries

2) A dry, uncooked, unsmoked French sausage (salami) made from coarsely chopped, mildly seasoned, pork and fermented and stuffed into pork casings

rose vinegar A vinegar made by placing 3 ounces of red rose petals in 1 quart of wine vinegar for 10 days and then straining

rose water A flavoring distilled from rose petals and used in cooking

Rose, William C. The person who identified threonine

rosé wine An all-occasion, pink wine made from French–American hybrid grapes. A pink-colored, alcoholic beverage made by fermenting grape juice Made by:

Fermenting with skin of pink grapes

Fermenting with skin of dark grape for 12–36 hours and then continuing fermentation without skin

Blending white and red wine

rosin A yellow to dark brown resin obtained from the sap of some pine trees See **gum rosin**; **resin**; **wood rosin**

rosquillo A wheat flour, anise-flavored, ring doughnut

rosso conero A dry, robust, red, Italian wine

rosso piceno A soft, ruby-red Italian wine

rostbraten Roast beef

rot See **brown rot**

See Part 2: Mold, Food; Rot Spoilage; Spoilage, Protein Foods

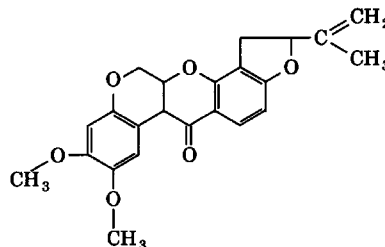
rotary capper A closing machine in which the containers travel in a circular path during closing

Rothbunte German red and white cattle

rote kirsch A bitter, sweet, dark red, cherry brandy

rotelle (wagon wheel) Pasta shaped like a wagon wheel

rotenone ($C_{23}H_{22}O_6$) A moderately toxic insecticide extracted from derris root; it is extremely poisonous to fish



See Part 2: Insect Control

roter block A moist, cooked, unsmoked Swiss sausage made from medium chopped, medium seasoned, beef and pork

roti The roast

rotini Enriched macaroni twists or spiral-shaped ($\frac{1}{4}$ inch) pasta See **macaroni**

roisserie An oven equipped with a rotating spit on which meat is roasted

rottenneck See **blast**

rou Meat

rouennais A cow's milk cheese

rough Degree of astringency of wine

roughage Indigestible (nonruminant) material in the diet; high fiber, high bulk, and low in total digestible nutrients; opposite of concentrate See **fiber**

Rough Fell A hill breed of British sheep

rough spot See Part 2: Sorghum Disease

rougue A plant with fernlike leaves; usually undesirable

roulade Meat wrapped around a stuffing; a beef dish

round The area of a hind quarter of beef located to the rear of the rump and loin area; its major muscles consist of the tip, top, eye, and bottom; about 20% of a choice carcass is round; if rump is included this would add about 5%

See Part 2: Beef Chart; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Roasting; Beef Round, Bone Structure; Beef Round Cuts; Beef Rounds; Beef Wholesale Cuts; Beef Yields; Bone-in Retail Cuts; Meat Identification; Meat Label; Potassium-Rich Foods; Veal Chart; Veal Cuts; Veal Roasting

round barrel See **kiangsu**

round bone sirloin A sirloin steak found in the loin end wholesale cut; it is located between the wedge bone sirloin and the double bone sirloin

round fish 1) Whole fish; fish that have not been gutted; fish as it comes from water. 2) New England whitefish See **whitefish**

round gourd A yellow gourd that is usually consumed before maturity

round herring (*Etrumeus sadina*) A Caribbean, food fish

rounding Anything above 50,000, etc., round up, and below round down; at 5,000, etc., round to the nearest even number

Example:

9.50	10.00
10.50	10.00
11.50	12.00
12.49	12.00
12.50	12.00
12.51	13.00

roundness Wine with abundant alcohol and no acidity

rounds Beef and pork small intestine used as natural casings in the meat trade
See Part 2: Casings, Animal; Casings, Hog and Beef; Casings, Terms

round scad (*Decapterus punctatus*) A food fish

round steak See Part 2: Braising Meat; Braising Time

round tip See **sirloin**

roundworm A food-borne parasite (*Ascaris lumbricoides*; *A. suis*) found in human feces

roux A slow cooked paste used for thickening; made from shortening (various types) and flour; the length of cooking affects color and flavor. The base for a number of sauces and soups

rouy A cow's milk, muenster-type cheese

Rowan A variety of lespedeza

roxarsone A drug used to promote growth, increase feed efficiency, treat dysentery, and change pigmentation

royal brabant A soft to semisoft, strongly flavored, cheese made from cow's milk and ripened by surface bacteria

royal colombier A yellow liqueur flavored with 24 herbs

royale A cooked and cooled, molded, egg custard; often cut and added to clear soup

royale cherry Duke cherry

royaled A variegated flavor in ice cream

royal fizz An effervescent alcoholic beverage containing gin and eggs

royal mint See **apple mint**

royal mint chocolate A liqueur flavored with mint and chocolate

royalp A 4-5 kg, Swiss cheese made from cow's milk

royal provence cheese A French, dessert, cream-type cheese containing olives

rozella (roselle) A hibiscus plant

Uses:

Flowers—jams, jellies, pies

Leaves—curries, pot herbs, salads

Seed pods—jams, jellies

Young stems—jams, jellies

RSP cherries Red, sour, pitted cherries

r.s.v.p. *Repondez, s'il vous plait*; French for please reply

Ru Symbol for the element ruthenium

rubber (C₅H₈)_n A natural high polymer useful for insulation, vibration damping, etc.

See Part 2: Insulating Value

rubber hydrochloride A stretchable film used in food packaging

rubber stopper

Size No.	Approx. diam. of large end of stopper (mm)
00	15
0	17
1	19
2	20
3	23
4	26
5	27
5½	28
6	32
6½	34
7	37
8	41
9	45
10	50
11	51
12	64
13	69
13½	75
14	90
15	103

rubberweed A plant having a toxic principle
See Part 2: Poisonous Plants

rubbery 1) Resistant or rubberlike texture. 2) Odor of natural or synthetic rubber or butyl phenol

rubidium (Rb) A metallic element; at. no. 37; at. wt. 85.48; Group IA of Periodic Table; oxidation state +1
electron configuration 2-8-18-8-1;
orbit K L M N O

Rubner, Max The person who stated that the body must obey the laws of energy and determined fuel values of fat, protein, and carbohydrates

ruby A slightly red port between tawny and full

ruby cabernet A red wine

rucola See **rocket**

ructus Belching

rudd (*Scardinius erythrophthalmus*) A freshwater food fish

rudesheimer A full-bodied, white wine

rudimentary shoot (leaves) See Part 2: Corn Kernel

rue (herb of grace; *Ruta graveole(a)ns*) A small, aromatic, perennial shrub with bitter, blue-green, serrated leaves; used in food, in pickles, in salad, and as a tea

rue oil A volatile oil obtained by steam distillation of *Ruta bracteosa*, *R. graveolens*, or *R. montana* flowers. An essential oil used for flavoring cheeses; used also as a fatlike flavoring agent in foods (especially salads) and to make tea; sp. gr. 0.825–0.838

Storage: full, tight, glass container in a cool, dark place
See Part 2: Essential Oils

ruffec A valençay-type cheese made from goat's milk; eaten fresh or matured for 1 month (bluish rind)

ruffed grouse (ruffed partridge; *Bonasa umbellus*) A game bird

ruffle fat Intestinal fat of meat animal carcass

rugenwalder teewurst A beef or pork teewurst

ruhi A rice wine

rullepølse A moist, cooked, unsmoked Danish sausage made from coarsely chopped, mildly seasoned, pork and not stuffed into a casing

rum An alcoholic distillate from fermented juice of sugar cane or sugar cane by-products (molasses) distilled at less than 190° proof. A spirit of high alcohol (35–60%) content produced by distillation of fermented (28–33°C for 30–48 hours) juice of sugar cane or molasses

Classes:

Aromatic—Barbados

Dry, light-bodied—Cuba

Rich, full-bodied—Jamaica

Strong, heavy—New England

1 fluid ounce = 28 grams

1 fluid ounce, 80 proof = 63 calories

86 proof = 70 calories

90 proof = 73 calories

See sugar cane

See Part 2: Flavor Ingredients, Taste and Flavor Type; Minerals (Trace), Limits

rum baba An open-textured, sponge cake soaked in rum

rum, Cuban A light colored and light flavored rum

rumen (paunch; plain tripe) The first and largest stomach of a ruminant animal located on its left side; this compartment breaks feed down into smaller particles, and is where microorganisms digest most of the cellulose; a bovine rumen may contain from 20 to 50 gallons

rum ether See ethyl oxyhydrate

rum, flavoring A synthetic flavoring
1 tbs of flavoring = $\frac{1}{3}$ cup of rum

ruminant A cud-chewing, herbivorous, animal with four stomachs that can utilize roughage as a source of food.

Examples: antelope, buffalo, cattle, camel, deer, goats, and sheep

rumination A digestive process that takes place in ruminant animals in which the food in the rumen and reticulum is regurgitated, rechewed, and again swallowed

rum 'n coke (rum 'n cola) An alcoholic beverage made from the juice and rind of $\frac{1}{4}$ lime added to ice, $1\frac{1}{2}$ oz (1 jigger) light rum, filled with cola and stirred

rump On a live animal, the part between the hips and the tail head; meat between loin and round

See Part 2: Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Roasting; Bone; Roasting, Time and Temperature; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting

rump back An English term for the pork loin area from the aitch bone to approximately the third lumbar vertebra

rump knuckle bone Superior extremity of the femur

rump roast An unboned rump contains the pelvic bone, the sacrum, and rump knuckle bone; however, it is usually retailed as a boneless, rolled, and tied roast

rump steak An English term for the pork flank area from approximately the aitch bone to approximately the third lumbar vertebra

runesten A cured, Danish or Swiss cheese made from cow's milk and wrapped in a red, transparent film

runner A fish

Amber fish—*Elegatis bipinnulatus*

Jurel (blue runner)—*Caranx chrysos*

See Part 2: Casings, Animal

runt (dolly, anthony) The smallest animal in a brood or litter; a small, nonthriving animal

Rural New Yorker A variety of potato

rush nut See chufa

rusk (zwieback) A hard, twice-baked, brown, crisp, wheat flour bread or biscuit used as a breakfast cereal or as an ingredient in sausage; may be sweet or plain; protein 6%; fat 8%; carbohydrate 82% See **zwieback**

russell A red, strong-flavored, alcoholic beverage made from beetroot juice

russet A green apple mottled with brown

russet crack A virus of sweet potatoes that causes disfiguring lesions on the surface of the roots

russetting Tan, brown, or blackish, lacy mottling or specking over the skin of Florida and Texas oranges and other fruit; does not effect eating quality

Russett Burbank A variety of potato used for baking and frying

Russian dressing A salad dressing that usually contains corn syrup, garlic, lemon juice, onion, spices, sugar, sweet pepper, tomatoes, and vinegar. Others made from chili sauce, eggs, olives, onion, and parsley. Often made using 1 part chili sauce and 2 parts mayonnaise; sometimes chopped vegetables are added
Composition: sodium 133 mg/tbsp (15 g)

See Part 2: French Dressing Variations; Salad Dressing and Mayonnaise Variations

Russian knapweed (*Centaurea repens* L.) A perennial weed

Russian salad Diced cooked vegetables covered with salad dressing; often contains apples, beets, carrots, chicken, cucumbers, dry mustard, gherkins, hard-boiled eggs, herring, potatoes, sugar, turnips, and vinaigrette

Russian sturgeon (*Acipenser guldenstadti*) A food fish

Russian thistle (*Salsola kali* L.) An annual weed

ruskii A low-fat, sour drink made from milk whey and combined with sodium caseinate; may be sweetened

rust 1) A disease of plants, especially cereal grasses, characterized by the appearance of reddish discoloration of the leaves; caused by virus infestation (*Basidiomycetes* group). A fungus (*Puccinia asparagi*) disease of asparagus and mint. 2) Fungus (*Tranzschelia discolor*) that affects the leaves (yellow spots on upper surface; underside thickens; orange yellow tubelike structure on each spot; leaves may turn yellow and drop) and fruit (similar lesions on calyx end of fruit) of apple, pear, and peach trees. Control: disease-resistant varieties and fungicide spray. 3) A condition in tin cans caused by not properly drying cans after retorting. See **scurf**; **smut**. See Part 2: Sorghum Diseases

rustenberg A red wine

rust mite A very tiny (less than $\frac{1}{125}$ inch) insect that is brown in winter and white or pale beige in summer; causes fruit and leaves to turn uniform reddish brown; attacks leaves and cause blisters on underside of leaf that are $\frac{1}{8}$ inch in diameter and may completely cover the underside of the leaf

rutabaga (swede; Swedish turnip; yellow turnip; *Brassica campestris* var. *napobrassica*) A vegetable whose root is used as food; a turniplike plant with a long, yellow or white root that may be purplish near stem end; flavor similar to kohlrabi. Seed 10,000 per ounce; 1 oz per 250 foot row; plant 4 inches apart in rows spaced 15 inches; matures in 50 days; yield 1 bushel per 50 foot row

Variety	Shape	Color	Season (days)
American purple top	Globe	Light yellow; upper part purple; yellow flesh	90
Burpee's Purple Top Yellow	Globe; large	Light yellow; upper part purple; orange flesh	90
Golden Ball (Orange Jelly)		Yellow flesh	90
Laurentian		Pale smooth root; upper part purple; yellow flesh	90
Sweet German (White Swede, Sweet Russian)		White flesh	90

Types:

Yellow fleshed—American Purple top; Golden neckless; Purple top yellow

White fleshed—Sweet German (white Swede; sweet Russian); Sweet perfection; White-fleshed neckless

Prepared by boiling (20–40 minutes; leave whole or mash), frying, steaming, or stewing; 30% refuse

Equivalents

1 bushel (bu) = 56 pounds (lb)

1–1.5 lb, fresh = 4 servings

1 lb, fresh = 2.5 cups, cubed
= 2 cups, cooked

1 large, peeled and cut into 1.5 inch cubes
= 5–6 cups

1 small = 8 ounces (oz)

1 cup, cubed = 140 grams (4.9 oz)

1 cup, boiled, diced, drained = 6 oz

1 cup, boiled, mashed = 8.6 oz

1 serving = 0.3–0.5 lb

Composition (raw): moisture 87%; protein 1%; fat 0.1%; carbohydrate 11%; ash 1%

Storage: Cool room temperature, relative humidity 90–95%; will keep 2 months at 60°F. For long storage they may be coated with paraffin to prevent moisture loss and shriveling (paraffin is removed by peeling); they give off odor during storage. See **Swede**

See Part 2: Minerals, Food; Plant Foods, Composition; Planting Density; Root Crop Characteristics; Storage; Sugar, Vegetables; Vegetable Composition; Vegetable Planting Chart; Vegetable Plants; Vegetable Storage

ruthenium (Ru) A metallic element; at. no. 44; at. wt. 101.1; Group VIII of Periodic Table. oxidation states +3, +4, +5, +6, +8
electron configuration 2–8–18–15–1;
orbit K L M N O

Rutherford See Part 2: Constants, Fundamental

rutland A cheddar-type cheese flavored with garlic, parsely, and beer

ruzica A rosé wine

ryazhenka A light brown (caramel) yogurt

ryba Fish

rye (*Secale cereale*) Originated in central Asia. An annual grass used for grazing; a grain that can withstand cold climate and poor soil; similar in composition to wheat; plant 48–112 lb/acre; variety Abruzzi; used to make black bread (schwartzbrot), whiskey, gin, and beer. Young plants used as fodder and older plants for bedding, thatching, paper-making, and straw products. Rye sometimes contains a parasitic fungus called ergot (*Claviceps purpurea*), which is poisonous to man and animals

Other grade names:

Dark—includes a part of the outer portion of the grain

Light—inner portion (endosperm) of grain

Medium—blend of light and dark

Red dog

Rye bran

Straight—all of the flower from grain; 30% dark and 70% light

1 bushel = 56 pounds (lb)

1.7 lb rye seed per quart

1.5 lb ground rye per quart

646 rye (*Secale cereale*)

Comparative approximative nutrient used for growth:

	20 bushels of rye	1 ton straw		
N	21 lb	10 lb		
P ₂ O ₅	8 lb	6 lb		
K ₂ O	6 lb	16 lb		
			Flour, by-product less than 8.5% fiber, rye middlings	Whole grain
Composition	Distiller's grain, dehydrated	Feed, less than 9.5% fiber		
Moisture (%)	8	10	11	11-12
Protein (%)	21.6	16.7	16.2	12-15
Fat (%)	7	3.4	3.2	1.5-2
Carbohydrate (%)				73
Fiber (%)	12	4.6	4.8	2.2
Ash (%)	2	3.8	3.7	1.6-2

pH 5-5.5. For green manure, plant in fall and turn under in spring

Food storage: tightly closed container in a cool place or freeze for longer storage *See* **pumpnickel**

See Part 2: Cereal Composition; Cereal Nutrient Content; Minerals, Food; Minerals, Plant or Animal Tissue; Nutrients in Crops; Plant Foods, Composition; Protein Factors; Seed, Chemical Composition; Seed, Germination; Vitamin A, Food

rye bread A dark-colored sourdough bread made from all rye or rye and wheat flour *See* **bread, rye**

rye cracker

1 wafer = 6-7 grams (g)

Composition: fiber 10%; sodium 70 mg per cracker (6 g)

rye flour Flour from rye grain; low in gluten and elasticity. Available in white, medium, and dark; the

darker the color the more outer portion of the grain included and the more pronounced the rye flavor; usually mixed with wheat flour to make baked products; makes a more compact loaf of bread

1 cup, unsifted, spooned, light = 3.6 ounces (oz)

1 cup, sifted, spooned, light = 3.1 oz

1 cup, unstirred or stirred, dark = 4.5 oz

100 lb, rye flour = 2.23 bushels, rye

Composition: moisture 11%; protein 9-16%; fat 1-3%; carbohydrate 68-78%; ash 1-2% *See* **Bohemian rye flour**

rye flour, dark A whole grain flour that includes the germ and the outer layers where the B vitamins and minerals are concentrated

ryegrass

Annual (Italian)—*Lolium multiflorum*

Perennial (English)—*L. perenne*

An annual and perennial grass. When eaten by cattle, it will sometimes give an off-flavor to milk; seeding 40 lb/acre; 24 lb/bushel

Ryeland A medium wool, British breed of sheep

rye meal 4½ cups = 1 pound

Composition: moisture 11%; protein 13-14%; fat 2%; carbohydrate 71-72%; ash 1-2% *See* **pumpnickel**

rye wafer *See* Part 2: Grain Products Composition

rye whiskey Whiskey made from a mixture of rye or barley malt and unmalted rye; a full-bodied whisky distilled from fermented rye, mixed with maize and barley; aged in new charred barrels

rye, wild Perennial bunchgrass, not related to rye-grass

Species:

Canada wild rye—*Elymus canadensis*

Russian wild rye—*E. junceus*

ryzhik *See* **chanterelle**

S

S The symbol for the element sulfur

saaland pfarr See **prestost**

saanen (hartkäse; reibkäse; walliskäse) A very hard, long cured, deep yellow, emmenthaler-type cheese with small holes and made from cow's milk

Saanen A breed of goats
See Part 2: Goats, Milk Breeds

sabayon A dessert made of egg yolk, vanilla, sugar, and white and sherry wine

SABHI agar See Part 2: Microorganism, Media

sable A high-fat pastry

sableau A soft, white, triangular cheese made from goat's milk and used fresh or cured 1 week

sablefish (black cod; butterfish; *Anoplopoma fimbria*) A saltwater food fish that weighs about 8 lb and has a high fat content, light meat, and a mild, delicate flavor
See Part 2: Vitamin A, Fish; Vitamin D, Fish

sabo See **nkyekyere**

sabodet coudenat A moist, uncooked, unsmoked French sausage made from coarsely chopped, mildly seasoned pork fermented and stuffed into beef or pork casings; cooked before eating

sabouraud medium See Part 2: Microorganism, Media

sabra A liqueur flavored with orange and chocolate

sacahuista A plant having a toxic principle
See Part 2: Poisonous Plants

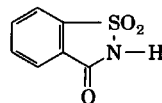
saccharase An enzyme that uses sugars as a substrate See **invertase**

saccharide One of a series of carbohydrates

saccharimeter [saccharometer (sometimes reserved for density measurements)] An instrument for determining the concentration of sugar by measuring the angle of rotation of polarized light

saccharin A non-nutritive sweetener 500 times as sweet as cane sugar (sucrose); mp 227°C; used by diabetics as a substitute for sugar; used in dietetic foods (but it leaves a bitter aftertaste); excreted by the kidneys. A known weak carcinogen, the Food and Drug Administration proposed (1977) a ban on the use of saccharin; instead, the warning "Use of this product may be hazardous to your health. This product contains saccharin, which has been determined to

cause cancer in laboratory animals." must appear on the label of all products containing saccharin.



Storage: tight container
See Part 2: Sweetening Agents; Sweetening Compounds; Sweetness of Sweeteners

saccharometer See Part 2: Wine, Sugar Addition

Saccharomyces A genus of molds
See Part 2: Spoilage, Carbohydrate Foods

saccharose See **sucrose**

sack A strong, dry, light-colored wine

sacral vertebrae The portion of the backbone behind the hip joint and before the tail bone (loin end area); between the lumbar and caudal vertebrae
Number of sacral vertebrae: beef 5; chicken, fused; lamb 4; pork 4; rabbit 3 or 4
See Part 2: Bone

sacramento perch A fish belonging to the sunfish family

sacroiliac The joint in which the sacrum meets the iliac
See Part 2: Bone

sacrum See **sacral vertebrae**

saddle The unseparated (unsplit) loins (back area); a cut of meat (usually mutton or lamb) that includes the lower back, with kidneys; in an unsplit carcass, the foresaddle and hindsaddle are usually divided between the 12th and 13th ribs See **Wessex Saddleback**

Saddleback A breed of hogs; the British Saddleback is a cross between Essex and Wessex Saddlebacks, which produced a black lop-eared pig with a white saddle over the shoulder

sadecka A semidry, cooked Polish sausage made from double-smoked, fine- or medium-chopped medium-seasoned beef and lamb, with plasma, stuffed into beef or artificial casings

sadilly A white wine

saenjeot Pickled shrimp

saeterpolsee A salami made from beef and pork, containing offal; a dry, uncooked, smoked Norwegian sausage made from medium-chopped, medium-seasoned beef and lamb, with large quantities of plucks added, fermented and stuffed into artificial casings

safalade A moist, cooked, smoked Yugoslavian sausage made from finely chopped, mildly seasoned

648 safalade

beef and pork stuffed into 55–58-mm pork or artificial casings, or not stuffed into a casing

safe and suitable A regulatory term indicating that a food ingredient performs an appropriate function, is used at a minimum level to achieve this function, and is not a food additive as defined by the Federal Food, Drug, and Cosmetic Act, unless used in conformity with appropriate regulations covering these additives

safe level of intake (protein) The quantity of protein necessary to meet the physiological needs and maintain the health of most of the people in a specific population

safety button (flip panel) The round portion of a can lid that changes from convex to concave when container has a vacuum

saffian Leather made from goat or sheep skin

Saffie (Georgia bind) The amount of fat (in grams) emulsified per gram of meat

safflower (false saffron; *Carthamus tinctorius*)

A plant that is grown for its seed, which yields a polyunsaturated oil and protein feed; the light yellow oil is sometimes used for coloring food. The seeds may be prepared for eating by roasting (whole or after dehulling); the flowers produce an orange dye brighter than saffron. (Safflower is called false saffron because it is sometimes used to adulterate saffron.)

Yield from seed:

Hull (1% oil, 4% protein)—35–40%

Oil—40%

Protein—15%

Storage (seed): moisture content 10% max.

See also **safflower oil**

See Part 2: Seed, Chemical Composition; Unsaponifiable Matter

safflower meal The ground press cake of safflower seed from which the oil has been expressed; contains 1% oil; protein content varies from 23% (unhulled seed) to 43% protein (dehulled seed); used for human (dehulled) and livestock (unhulled) nourishment

Composition	Mechanically extracted	Solvent-extracted	
		Seed	Hull removed
Moisture (%)	9	8	8
Protein (%)	20	23	43
Fat (%)	6	1	1
Fiber (%)	32	30	13
Ash (%)	4	5	7

See Part 2: Oil Meals, Composition

safflower oil A highly unsaturated oil obtained from pressing and/or solvent-extraction of safflower seed

Composition (fatty acids): arachidic 0.4%; eicosenic 0.6%; linoleic 70–78%; linolenic 3%; myristic 0.1%; oleic 13–19%; palmitic 5–7%; stearic 3%

Properties:

Iodine value—143–145

Melting point—18 to –15°C

Saponification value—190–192

Specific gravity 60°C—0.90

Equivalents:

1 qt = 4 cups

1 cup = 210 g (7.4 oz)

See Part 2: Fats and Oils, Composition I; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties: Fatty Acids, Fats and Oils; Free Fatty Acid, Smoke, Flash, and Fire Points; Iodine and Saponification Values; Oil, Triglyceride Mole Percent Composition; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Tocopherols

saffron (French saffron; Spanish saffron; vegetable gold; *Crocus sativus* L.) The dried orange-yellow stigmas of the saffron flower (a crocus-like bulbous plant); 200,000–225,000 stigmas (from 75,000 plants) per pound; used as a seasoning (aromatic odor and bitter aftertaste) in bread, cakes, rolls, sauces, soups, and rice; also a yellow-red color obtained from the saffron plant, used to color food

Dye—saffron yellow

Spice—orange-red: three-branched style; bitter, aromatic odor

Source: Spain

Composition: moisture 11–12%; protein 11–12%; fat 5–6%; carbohydrate 65–66%; fiber 3–4%; ash 5–6% (6% max.); HCl-insoluble ash 1% max.

See Part 2: Colors Permanently Listed

saffron bread A plaited tea bread covered with almonds and colored yellow with saffron

saffron cod (*Eleginus gracilis*) A food fish

safranin counterstain See Part 2: Gram Stain

safrole A flavoring obtained from the sassafras root; no longer approved by the Food and Drug Administration

sagamite Mush made from hominy

sage (*Salvia officinalis* L.) A low-growing (1–2 ft), perennial (75 days) shrub (thin to 10 in. apart in rows 15 in. apart); the leaf (fresh or dried) is used as an herb; sold in fresh or dried bunches; the leaf is the only part used.

Available forms (dried, in airtight containers): whole; cut (various particle sizes); crushed or rubbed (fluffy) and ground (finely pulverized) to specified granulations

Aroma—camphoraceous, herby

Flavor—aromatic, bitterish, warm, slightly astringent

Used to flavor cheese, dressing, meat stuffing, poultry stuffing, sauces, sausages, and soups; has antioxidant activity and a high affinity for fats

Names:

Bethlehem sage (*Pulmonaria saccharata*)

Black sage (*Audibertia stachyoides*)

Crimson sage (*Au. grandiflora*)

Dalmation sage (*Salvia officinalis* L.)

Jerusalem sage (*Phlomis fruticosa*)

Meadow clary (clary) sage (*S. sclarea*)

Purple sage (*Au. nivea*)

Sagebrush (*Artemisia tridentata*)

Spanish sage (*S. lavandulaefolia* vahl, *S. hispanorium* lag.)

White sage (*Au. polystachya*)

Leaf colors: gray-green (common); green; reddish

Leaf types: broad (best for drying); narrow; variegated

Varieties:

Dwarf golden (*S. officinalis nana*)

Golden (*S. officinalis aurea*)

Tricolor (*S. officinalis tricolor*)

Sources: Albania; Yugoslavia (Dalmation sage)

Composition: moisture 7–8%; protein 10–11%; fat 11–13%; carbohydrate 60–70%; fiber 17.5–18.5%; ash 7–8%

The dried product contains:

Not less than 1% volatile ether extract

Not more than 25% crude fiber

Note more than 12% stems (excluding petioles) or foreign matter

Not more than 10% total ash

Not more than 1% acid-insoluble ash

Storage: airtight containers

See Part 2: Essential Oils; Flavoring Agents, Natural; Spices, Microbial Content

sage cheese A cheddarlike cheese containing sage leaves, which give it a green appearance

sage derby A derby cheese that is flavored with the juice of sage leaves soaked in chlorophyll See **derby**

sage grouse (*Centrocercus urophasianus*) A game bird

sage jelly A jelly that is flavored with a sage infusion

1. Make infusion by pouring $2\frac{1}{2}$ cups boiling water over 1 cup fresh sage leaves.

2. Let cool; strain.

3. To 2 cups of sage infusion, add $\frac{1}{4}$ cup vinegar or apple cider, $1\frac{1}{2}$ cups sugar.

4. Boil until the sugar dissolves.

5. Add $\frac{1}{2}$ bottle liquid pectin and boil for $1\frac{1}{2}$ minutes.

6. Cool and add 1–2 drops food coloring if desired.

7. Fill sterilized containers and seal with melted paraffin.

sage lancashire A lancashire cheese that contains sage See **lancashire**

sage leicester A leicester cheese flavored with sage leaves

sage oil A light yellow to yellow-green oil obtained by steam distillation of partially dried leaves of sage; optical rotation -30 to $+29^\circ$; refractive index 1.457–1.473; sp. gr. 0.903–0.932 g/ml See **sage**

sage oil, Dalmation An oil obtained by steam distillation of *Salvia officinalis* leaves; used as a sagelike, flavoring agent in food; saponification value 5–20; sp. gr. 0.902–0.926

Storage: full, tight, glass container in a cool, dark place

sage oil, Spanish An oil obtained by distillation of *Salvia hispanorum* or *S. lavandulaefolia* plants; used as a sagelike flavoring agent in foods saponification value 15–60; sp. gr. 0.910–0.933

Storage: full, tight, glass container in a cool, dark place

sage oleoresin A dark green, viscous liquid obtained by solvent extraction of the leaves of sage and subsequent removal of the solvent; oil content 48–52%

sago Refined starch from the pith of the sago palm; sold in pearl (very small) form and used in preparing blancmange, custards, puddings, and soup; also used as a thickening agent

sago palm (*Metroxylon sagu*; *M. rumphii*) A subtropical tree that contains starch in the pith of the trunk; the trunk is split and the pith scooped out; it is then ground; the starch washed out and dried to form sago flour. A similar flour is also manufactured from other plants such as maize, palm fern, potato, sweet potato, and tapioca.

Composition: protein 0.2%; fat 0.2%; carbohydrate 94%;

See **palm**

See Part 2: Starch, Microappearance; Vitamin A, Food

sago, pearl Spherical sago particles, made by forcing sago through sieves into a hot iron pan

sagu See **cassava**

saguaro A cactus, from which an alcoholic drink is made

saguero A palm wine; a sweet, cloudy white wine made from the sap of the nipa palm

Saigon cinnamon See **cassia**

sai-krok-spies A fermented, semidry sausage made from pork or beef

sailfin (sandfish) A food fish

sailfish (Istiophorus spp.) A food fish

saim Fat or lard

saimin Noodle soup

sainfoin See Part 2: Seed, Germination

saino A thick porridge gruel made from sorghum or millet

Saint-Agathon A cheese made from cow's milk

Saint-Albray A cream cheese made from cow's milk

Saint-André An excelsior-type cheese

Saint-Benoît cheese A soft, münster-type cheese made from cow's milk with rennet added

Saint-Benout A camembert-type, soft cheese that is made from cow's milk and has an ashen rind

Saint-Bernard A gouda-type cheese with a black rind

Saint-Claude cheese A fresh or ripened cheese made from goat's milk

Saint-Croix-du-Mont 1) A high-quality, medium-rich white wine. 2) A commune on the north bank of the Garonne River in the Bordeaux region of southwestern France that produces a medium-rich, high-quality, sometimes sweet, white wine

Saint-Cruz See **sebu**

Sainte-Anne-d'Auray A cheese made from cow's milk

Sainte Marie A soft, white cheese made from cow's milk

Sainte-Maure A small, bar-shaped, French, valençay-type cheese, with a close, white curd, white and blue mold, a natural rind, and a mellow flavor; made from goat's milk

Saint-Emilion A full-bodied red wine

Saint-Estèphe A red wine

Saint-Florentin A münster-type cheese made from cow's or goat's milk

Saint-Flour A blue cheese

650 Saint-Germain

Saint-Germain A style of preparing food with green peas

Saint-Gildas A small (200 g), excelsior-type cheese

Saint Hallvard An herb liqueur

Saint-John's bread The carob bean See also **carob pod**

Saint-Julien A red wine

Saint-Marcellin A soft cream cheese made from goat's and cow's milk

Saint-Marcellin cheese (tomme de Saint Marcelle) A small, French, münster-type cheese that is made from cow's or goat's milk and has a white mold-covered rind, a close white curd, and a mild flavor; sometimes wrapped in chestnut leaves

Saint-Michels See **limburger cheese**

Saint-Nectaire cheese A soft to semihard type of tomme de savoie, French cheese, made from whole cow's milk with rennet added, that is pressed but uncooked, contains very little water, and is matured for 2 months on rye straw

Saint-Paulin A pressed but uncooked, disc- or wheel-shaped (250 g–2 kg), medium-flavored, semisoft French cheese, made from cow's milk that contains very little water, ripened by surface bacteria, and has a thin rind

Saint-Raphael A quinine-flavored, red or white, aperitif wine

Saint-Rémi A cheese made from whole cow's milk

Saint Remy cheese A soft münster-type cheese made from cow's milk with rennet added

Saint Stephano A creamy, semisoft mild-flavored cheese made from cow's milk and ripened by surface bacteria

saishikomi shoyu A dark brown soy sauce

sai-yau thick soy sauce

saj A leavened, thin flatbread, usually made from high-extraction wheat flour

sajur asin Pickled *Brassica rugosa*

sak A wine made from fermented bark of *Acacia arabica*

Sakaguchi See Part 2: Protein and Amino Acids, Color Reactions

sake (rice wine; saki; Samshu) A clear or amber-colored, sweet, rich, rice wine with alcohol content of 14–20%; rice is steamed (30–60 min); starter is added; the mixture is fermented at 10–15° C for 3 weeks, then filtered and diluted

saksische leverworst A moist, cooked, smoked or unsmoked Dutch sausage made from finely chopped, medium-seasoned beef and pork stuffed into pork or artificial casings

sal The pharmacist's term for a salt, e.g., sal ammoniac is ammonium chloride

salad (salade) Uncooked vegetables and sometimes meat that are cut up, mixed, and seasoned (often with dressing); usually served as a side dish, but may

be a separate course (e.g., the appetizer or first course, the main course, between main course and dessert, or as the dessert)

Types:

Cold salads

Fruit—fresh; often mixed fruits

Meat—cooked meat, poultry, and/or seafood (e.g., anchovy, crab, fish, lobster, shrimp); sometimes with vegetables

Vegetable—raw or cooked; often crisp

Green salads—mixed raw vegetables

Starchy salads—may be hot or cold

Macaroni

Potato

Served with:

Cheese—as a separate course

Dressing—as hors d'oeuvres

Game—served after the main dish

Meat—as an accompaniment

Poultry—as a side dish

See Part 2: Portion Size

salad berry A berry of *Gaultheria shallon*

salad burnet (*Sanguisorba minor*) A perennial herb with fernlike leaves that are used fresh and have a cucumbery taste; used to flavor salads, vinegar, and wine

salad burnet vinegar Vinegar flavored with salad burnet

1. Rinse and pat dry salad burnet and place in a container.

2. Heat cider or wine vinegar and pour over salad burnet.

3. Cover and leave at room temperature for 2–3 weeks.

4. Strain through cheesecloth and pour into a bottle.

salad combination A canned mixture of asparagus tips, carrots (diced), green beans (cut into 1½ inch pieces) lima beans, peas, and pimiento

salad cream A dressing made from olive oil and eggs

salad dressing 1) A combination of mayonnaise and a cooked paste base with a minimum of 30% vegetable oil

Acid—vinegar or lemon juice (citric acid permitted to ¼ acetic in vinegar)

Emulsifying ingredient—a minimum of 4% liquid egg yolk

Starch paste—tapioca, wheat flour, or rye flour is required

2) A term used to describe dressings placed on salads; often classified into three types: cooked; French; mayonnaise

1 tbsp = 0.5–0.6 oz

Composition: moisture 40%; protein 1%; fat 42%; carbohydrate 14%; ash 2%

Calorie content (regular):

Blue cheese—1 tbsp = 75 calories

Commercial, plain, mayonnaise type—1 tbsp = 55 calories

French—1 tbsp = 65 calories

Home-cooked, boiled—1 tbsp = 25 calories

Italian—1 tbsp = 70 calories

Mayonnaise—1 tbsp = 100 calories

Russian—1 tbsp = 75 calories

Thousand island—1 tbsp = 60 calories

Calorie content (low-calorie):

French—1 tbsp = 20 calories

Italian—1 tbsp = 15 calories

Thousand island—1 tbsp = 25 calories

Storage: Refrigerate after opening; if home-made, keep refrigerated; do not freeze

See also **cooked salad dressing; French dressing; mayonnaise; Russian dressing***See* Part 2: Mayonnaise and Salad Dressing; Salad Dressing and Mayonnaise Variations; Stabilizers, Thickeners**salad fruit** *See* **fruits for salad; tropical fruit salad****salad greens** Vegetables that are used in salads, such as cabbage, celery, dandelion, endive, escarole, lettuce, and watercress

Storage: wash; drain well and place in crisper or plastic bags; refrigerate; use within 1 week

salad plants Plants that are used in salads; most can be eaten raw; e.g., beet, beetroot, celeriac, celery, chicory, chives, corn salad, cress, cucumber, dandelion (blanched), endive (blanched) lettuce, mustard, nasturtium, onion, parsley, radish, rampion, and tomato**salad oil (table oil; vegetable oil)** A refined, bleached, deodorized, and winterized (if needed) edible oil, e.g., olive oil; it remains unclouded and pourable at 40–50°F and will remain clear for 5.5 h at 32°F. Made from cooking oil by the removal of fractions that crystallize at low temperature (winterization), a step that olive oil and peanut oil do not require. One tablespoon contains 120 calories.

To remove stain from cloth: scrape off excess; use laundry pretreatment spray or cleaning fluid, and rinse in cool water; wash in hot sudsy water.

Storage: Short-term, at room temperature; long-term, refrigerate. If oil becomes cloudy or solid, this is not harmful and will clear upon warming.

salad vegetables Vegetables that are eaten raw with salt, pepper, vinegar, and salad oil, or with mayonnaise or other dressings; e.g., celery, endive, lettuce, parsley, and upland cress**salama letnja** A moist, cooked, unsmoked Yugoslavian sausage made from medium-chopped, mildly seasoned pork stuffed into 50-mm beef or artificial casings**salamana cheese** A soft, strong-flavored cheese made from sheep's milk**salamavra** A strong-flavored, white, brined cheese made from goat's milk**salama zemska** A dry, uncooked, smoked Yugoslavian sausage made from medium-chopped, mildly seasoned pork, fermented and stuffed into 35–40-mm beef or artificial casings**salame** A dry, uncooked, unsmoked Argentinean sausage made from fine- or coarse-ground medium-seasoned beef and pork, with white wine, stuffed into pork casings**Composition**

Salame	Moisture (%)	Protein (%)	Fat (%)	Carbohydrate (%)	Ash (%)
Cooked					
Beef	59	15	20	2.5	3.4
Beef and pork	60	14	20	2.2	3.3
Turkey	66	15	14	0.6	3.4
Dry or hard					
Pork	36	23	34	1.6	5.9
Pork and beef	35	23	34	2.6	5.5

salame, chacarero A dry or semidry, uncooked, smoked Uruguayan sausage made from coarsely chopped, mildly seasoned beef and pork, fermented and stuffed into beef or artificial casings**salame cheese** A large, provolone-type cheese made from cow's milk *See* **Italian cheese****salame fabriano** A dry, uncooked, unsmoked Italian sausage made from coarsely chopped, medium-seasoned, beef and pork, fermented and stuffed into pork casings**salame felino** A dry, uncooked, unsmoked Italian sausage made from medium-chopped, medium-seasoned pork, fermented and stuffed into pork casings**salame genovese** A dry, uncooked, unsmoked Italian sausage made from coarsely chopped, medium-seasoned beef and pork, fermented and stuffed into beef or pork casings**salame milan(o)** A dry or semidry, uncooked, smoked or unsmoked Italian or Uruguayan sausage made from fine- to medium-chopped, medium- to heavily seasoned beef and pork, fermented and stuffed into pork, beef, or artificial casings**salame napoletano** A dry, uncooked, smoked Italian sausage made from coarsely chopped, medium-seasoned beef and pork, fermented and stuffed into pork casings**salame tipo cervelat** A semidry, cooked, smoked Brazilian sausage made from medium-chopped, medium-seasoned beef and pork, stuffed into artificial casings**salame tipo friolano** A dry, uncooked, unsmoked Brazilian sausage made from finely chopped, mildly seasoned pork, fermented and stuffed into artificial casings**salame tipo Italiano** A dry, uncooked, unsmoked Brazilian sausage made from finely chopped, medium-seasoned beef and pork, fermented and stuffed into an artificial casing**salame tipo Milano** A dry, uncooked, unsmoked Brazilian sausage made from finely chopped, medium-seasoned pork, fermented and stuffed into artificial casings**salame tipo Polones** A dry, cooked, smoked Brazilian sausage made from medium-chopped, medium-seasoned beef and pork, stuffed into artificial casings**salametti** A dry, uncooked, unsmoked Swiss sausage (salami) made from medium- or coarse chopped,

heavily seasoned beef and pork, fermented and stuffed into pork or artificial casings

salame varzi A dry, uncooked, unsmoked Italian sausage made from coarsely chopped, medium- or heavily seasoned pork, fermented and stuffed into beef or pork casings

salame veronese A dry, uncooked, unsmoked Italian sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into pork or artificial casings

salami (frizzles; salame; sopresate; sopressata)

A generic term for dry Italian salame, German salami, and kochsalami; a coarsely ground, cooked Italian sausage of many varieties. Salami, thought to have originated in Cyprus, is a dry sausage that is usually made with beef (60%) and pork (40%) and is usually highly seasoned. Some familiar ones are arles (French), beerwurst (German), and calabrese, capicola, cotta, and genoa (all Italian). An American version is a dry or semidry, uncooked, smoked or unsmoked, medium- to coarse-chopped, heavily seasoned (with garlic, paprika, and red or black pepper), fermented beef and pork stuffed into pork casings, the product is air-dried for 60–100 days and is available in links, rings, or large-diameter casings. An Austrian version is a dry uncooked, smoked, coarsely chopped, medium-seasoned (with nitrate) beef and pork, fermented and stuffed into artificial casings with a diameter of greater than 40 mm.

Meats used:

Beef—50–80% (normally 60%)

Beef fat plate—0–35%

Heart meat—0–20%

Pork—20–60% (normally 40%)

Pork cheek meat—0–25%

Other ingredients (amount per 100 lb):

Ice—0–24%

Sugar*—8 oz

Cardamom*—1 oz

Coriander—0–3 oz

Cracked black pepper*—2–6 oz

Garlic powder*—1 oz

Mace—0–1 oz

NaNO₂*— $\frac{1}{4}$ oz

NaNO₃*—2 oz

Paprika—0–1 oz

The asterisk indicates the combination used in some formulations.

Processing procedure:

1. Grind with $\frac{1}{8}$ -in. plate.
2. Mix; add cure and spices.
3. Stuff into casings.
4. Hang until dry.
5. Smoke 80–90°F for 14 h then at 150–160°F until internal temperature reaches 142°F.
6. Rinse with hot water.
7. Shower for 10 minutes.
8. Hang at room temperature for 2 hours.
9. Store in cooler.

Types:

Abruzzese—moisture-to-protein ratio must be 1.9 : 1 or less

BC salami—MPR must be 1.9 : 1 or less; made with beef and pork and seasoned with garlic; less highly flavored but more heavily smoked than

Italian; tied with twine (gives scalloped appearance)

Burgermeister—artificial casing

Cosenza—high quality; oriental spices, including whole black pepper

DiLusso Genoa—deluxe; mildly seasoned, coarsely chopped, unsmoked; air-dried 90–110 days; 6–8 lb

Dry or hard—MPR must be 1.9 : 1 or less; may be cooked

Genoa (Italian hard)—primarily pork, flavored with garlic and wine or grape juice; not smoked; long drying time

Gran valore Genoa—higher in fat than DiLusso Genoa

Hard—very lean; deep red color; dash of garlic; moderately smoked; 4.5 lb

Hungarian (winter)—cured and dried for several months

Italian—80% finely chopped pork and 20% chopped beef; MPR 1.9 : 1 or less

Messina—mostly pork, medium-chopped; whole peppercorns; 16 × 2.25 in. 3 lb

National—hard; light mahogany color

Piccolo—southern Italian type; primarily pork; black peppercorns

San Remo Genoa—artificial casing; large slices; 4.75 lb

Sicilian—uncooked (trichina treatment required); very dry; medium-chopped; not smoked; contains no garlic but contains whole peppercorns; MPR 1.9 : 1 or less

Southern Italian—highly spiced (no garlic); not smoked, high processing temperature

Sodium content: 226–255 mg/slice

1 cup, diced = 4.8 oz

See **German salami**

See Part 2: Meat Composition; Sausage Identification; Sausage, Nutritive Value; Sausage, Types; Water Activity, Organisms and Food

salami (dry) A dry sausage made from predominantly pork with some beef; it is allowed to cure 2 days before stuffing; it is then dried without smoking.

Types:

BC salami (German type)—stuffed into beef middle casings 11–15 in. long; smoked

Genoa—stuffed into sewed hog bungs 16–20 in. long

Milano stuffed into hog bungs 18–30 in. long

See **salami, dry or hard**

salami, aeros A dry, uncooked, smoked or unsmoked Greek sausage made from coarsely chopped, medium-seasoned (with garlic and grains of black pepper) beef and pork with pieces (1 cm³) of pork fat fermented and stuffed into sheep or artificial casings

salami, Austrian A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned, beef and pork stuffed into artificial casings

salami, BC A medium- to coarse-chopped, cooked, smoked, American sausage, available in large-diameter links, rings, or large-diameter casings for slicing

salami, beef, cooked An all-beef salami similar to Kosher salami but not made under rabbinical supervision See **salami, cooked, beef**

salami, Berliner A moist, cooked, unsmoked Irish sausage made from finely chopped, mildly seasoned pork stuffed into artificial casings

salami cheese A processed cheese with pieces of salami; used for snacks

salami, cooked, beef A moist, cooked, smoked medium- to coarse-chopped, mildly seasoned beef, with cereals and extenders cured for 48 h, cooked, air-dried a short time or not at all, and stuffed into large-diameter links or large beef or artificial casings for slicing *See salami, beef, cooked*

salami, cooked, beer (beerwurst) A moist, cooked, smoked American sausage medium- to coarse-chopped, mildly seasoned (with garlic and pepper) beef and pork, cured for 48 h, cooked, air-dried a short time or not at all, and stuffed into large beef or artificial casings and available in large-diameter links or large-diameter casings for slicing

salami cotto (cooked salami) A moist-cooked (may be smoked) American or Italian sausage made from a coarsely chopped, mildly seasoned (often with whole peppercorns) mixture of predominantly pork with some beef, it is held 3 days prior to cooking to allow curing; during cooking, the internal temperature is raised to above 137°F; stuffed into large beef or artificial casings and air-dried a short time or not at all; available in large-diameter links, rings, or large-diameter casings for slicing. It is softer than dry sausage and must be refrigerated.

salami, Danish-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

salami danoix A dry, uncooked, smoked French sausage made from medium-chopped, medium-seasoned pork, fermented and stuffed into pork casings

salami, d'Arles (Arles, de Arles) A dry, uncooked, unsmoked American sausage made from coarsely chopped, mildly seasoned beef and pork, fermented and stuffed into beef, pork, or artificial casings; the product is corded in a "crisscross" style and is air-dried for 60–100 days.

salami de Milan A dry, uncooked, unsmoked French sausage made from medium-chopped, mildly seasoned beef and pork, fermented and stuffed into beef casings

salami de Strasbourg A dry, uncooked, smoked French sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into beef casings

salami, dry or hard A dry or semidry, uncooked, smoked or unsmoked American sausage made from medium- to coarse-chopped, mildly seasoned beef and pork (may contain extenders), fermented and stuffed into pork or artificial casings; the product may be cooked to speed drying time and is available in links, rings, or large-diameter casings.

Types:

Genoa—moistened with wine or grape juice; seasoned with garlic; cord-wrapped lengthwise

Milano—Italian salami made from pork and finely cut beef; spiced with garlic

Sicilian—Italian salami made from coarsely

chopped pork and finely cut beef; spiced with garlic

See salami (dry)

salami, Dutch A dry, uncooked, smoked Dutch sausage made from medium- or coarse-chopped, medium- or heavily seasoned beef and pork, fermented and stuffed into beef or artificial casings

salami, east Germany A dry, uncooked, smoked eastern German sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

salami, extra A dry, uncooked, smoked Belgian sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into pork or artificial casings

salami, garlic A moist, cooked, smoked or unsmoked Irish sausage made from medium-chopped, medium- or heavily seasoned beef and pork stuffed into artificial casings

salami, genoa A dry, uncooked, unsmoked American sausage made from medium- to coarse-chopped, mildly seasoned (with garlic and grape juice or wine) beef and pork, fermented and stuffed into pork casings and is given an end-to-end cord wrapping; the product is air-dried for 60–100 days and is available in links, rings, or large-diameter casings.

salami, German A dry, uncooked, smoked (more heavily than Italian) American sausage made from medium-chopped, mildly to highly seasoned (with garlic) beef and pork, fermented and stuffed into pork or artificial casings and given a scalloped cord wrapping; the product is air-dried for 60–100 days.

salami, gullstjerna A dry, uncooked, smoked Norwegian sausage made from medium-chopped, heavily seasoned beef and pork, fermented and not stuffed into casings

salami, ham A moist, cooked, unsmoked Irish sausage made from coarsely chopped, mildly seasoned pork stuffed into artificial casings

salami hongrois A dry, uncooked, smoked French sausage made from medium-chopped, medium-seasoned pork, fermented and stuffed into beef casings

salami, Hungarian A dry, uncooked, smoked (heavier than Italian) Hungarian sausage made from medium-chopped, heavily (less than Italian) seasoned (with garlic) pork, fermented and stuffed into artificial casings

salami, Hungarian-type A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

salami, hungaro A dry, uncooked, smoked Mexican sausage made from finely chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

salami, Irish farmhouse A dry, uncooked, smoked Irish sausage made from coarsely chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

salami, Irish whiskey A dry, uncooked, smoked Irish sausage made from coarsely chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

654 salami, Italian

salami, Italian 1) Refers to many varieties (e.g., genoa, milano, and sicilian) of salami that are made from coarsely chopped, cured, lean pork and finely chopped, lean beef, moistened with wine or grape juice, and are highly seasoned (contains garlic), air-dried, and chewy. 2) A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into artificial casings See **salami (dry)**

salami, Kosher A moist, cooked, smoked American sausage made from medium- to coarse-chopped, mildly seasoned (with coriander, garlic, mustard and nutmeg) beef stuffed into artificial casings and available in links, rings, or large-diameter casings for slicing; must be produced under rabbinical supervision See **Kosher salami**

salami, Mailand A dry, uncooked, unsmoked Austrian sausage made from coarsely chopped, medium-seasoned (with nitrate) beef and pork, fermented and stuffed into artificial casings with a diameter of greater than 40 mm

salami, milano A dry, uncooked, unsmoked American or Mexican sausage made from medium-chopped, mild- to medium-seasoned (with garlic) beef and pork, fermented and stuffed into pork or artificial casings; the product is air-dried for 60–100 days and shows distinct cording.

salamines A dry, uncooked, unsmoked Argentinean sausage made from finely chopped, medium-seasoned beef and pork, with white wine, stuffed into pork casings.

salami, Norwegian A dry, uncooked, smoked Norwegian sausage made from medium-chopped, heavily seasoned beef and pork, fermented and stuffed into artificial casings

salami, nostrano A dry, uncooked, unsmoked Swiss sausage made from coarsely chopped, heavily seasoned meat, fermented and stuffed into beef, pork, or artificial casings

salami, Polish A dry, uncooked, smoked Polish sausage made from finely chopped, medium-seasoned beef and pork, fermented and stuffed into beef casings

salami, San Francisco, Italian-style A dry, uncooked, unsmoked American sausage made from medium chopped, mildly seasoned beef and pork, with nonfat dry milk (NFDM) and fermented and stuffed into pork casings; the product is air-dried for 60–100 days.

salami, serai A moist, cooked, unsmoked Greek sausage made from finely chopped, medium-seasoned (with garlic) beef and pork stuffed into pork, sheep, or artificial casings; often canned

salami, Sicilian A dry or semidry, uncooked, unsmoked American sausage made from medium- to coarse-chopped, mildly seasoned (no garlic) beef and pork, fermented and stuffed into pork casings; the product is air-dried for 60–100 days and is available in links, rings, or large-diameter casings.

salami, skordato A moist, cooked, unsmoked Greek sausage made from finely chopped, heavily seasoned

(with garlic) beef and pork stuffed into pork, sheep, or artificial casings

salamisnabb (chub) A dry, uncooked, smoked Norwegian sausage made from medium-chopped, heavily seasoned beef and pork, fermented and stuffed into artificial casings

salami, Swedish A semidry or dry, uncooked, smoked Swedish sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

salami, Swiss A dry, uncooked, unsmoked Swiss sausage made from medium-chopped, heavily seasoned beef and pork, fermented and stuffed into beef, pork, or artificial casings

salami, ungarische A dry, uncooked, smoked Austrian sausage made from coarsely chopped, medium-seasoned (with nitrate) pork, fermented and stuffed into artificial casings with a diameter of greater than 40 mm

salami, varzi A dry, uncooked, unsmoked Mexican sausage made from coarsely chopped, medium seasoned beef and pork, fermented and stuffed into an artificial casing

salami, Vienna A moist, cooked, smoked or unsmoked Irish sausage made from medium- or coarse-chopped mild or medium seasoned beef and pork stuffed into artificial casings

salami, vtasto A moist, cooked, smoked Greek sausage made from finely chopped, medium-seasoned beef and pork stuffed into a sheep caecum or round, or into an artificial casing

salami, western German A dry, uncooked, smoked western German sausage made from coarsely chopped, medium-seasoned beef and pork, fermented and stuffed into artificial casings

salana A Portuguese sausage containing pork, green onions, parsley, vinegar, spices, and garlic

salaneuros A gouda-type cheese

salat Salad

salcesson A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned pork stuffed into artificial casings

salchicha 1) Sausage; 2) moist, uncooked, unsmoked Uruguayan sausage made from finely chopped, medium-seasoned veal, with fresh cheese, stuffed into sheep casings

salchicha fresca A moist, uncooked, unsmoked Argentinean sausage made from finely chopped, mildly seasoned (with ground cinnamon, ground cloves, ground white pepper, nitrate, salt, water, and white sugar) beef and pork, with backfat, stuffed into sheep casings

salchicha tipo Frankfurt A moist, cooked, smoked, finely chopped, mildly seasoned beef, lamb, pork, and veal, Argentinian sausage, made with beef brisket fat and pork backfat and stuffed into sheep or artificial casings

salchichon con jamon A moist, cooked, smoked Argentinean sausage made from finely chopped, mildly seasoned beef, lamb, and veal, with pork ham and

backfat and wheat flour, stuffed into beef, pork, or artificial casings

sale or return An agreement between buyer and seller by which the goods are sent on approval directly to the customer for use; if the customer decides not to buy them, the goods may be returned to the seller

salep (salop) Dried tubers of *Orchis mascula* or *O. latifolia*; used to make a drink or jelly

saleratus Baking soda (sodium or potassium bicarbonate)

salicylage The preservation of food with salicylic acid

saligny A münster-type cheese made from cow's milk

saligot Water chestnut

salimeter (salinometer; salometer) A hydrometer; a floating (specific gravity) instrument used to test the strength or salinity (salt) of a pickle or brine.

Pure water = 0°; saturated salt (26.4%) solution at 38°F = 100°

60° brine = 0.60×26.4

= 15.8% salt at 38°F

See Part 2: Brine, Meat Curing; Salt Brine; Salt, Brine Table

saline Pertaining to salt See **physiological saline; salty**

salinometer See **salimeter**

salisbury steak Ground beef mixed with bread and seasoning and fried or broiled

See Part 2: Portion Size

saliva The clear, alkaline, viscid, digestive-fluid secreted by salivary glands (parotid, submandibular, and submaxillary) located in the mouth; it provides lubrication (mucin, a glycoprotein) for swallowing and assists in carbohydrate breakdown (amylase); it contains ptyalin, potassium thiocyanate, and albumin; produces 1–1.5 liter (1.1–1.6 qt) per day.

See Part 2: Moisture in Biological Materials; pH Values of Biological Materials

salivary glands See Part 2: Organ Weights

Sally Lunn A bread; baked as muffins or cut into squares

salmagundi A mixture of meat, eggs, and pickled vegetables served as a salad; almost any fancy mixture of food

salmi Birds or game stewed in wine or cooked as a ragout or stew

salmon (*Oncorhynchus* spp.; *Salmo* spp.) A large, soft-finned, fat fish with reddish to red-yellow flesh; the percentage of fat varies from 0 to 14% depending on when caught; salmon live in both fresh and salt water. Pacific salmon are different species from Atlantic salmon, which are true salmon.

Types;

Atlantic salmon (*S. salar*)—related to huchen, but more closely related to trout; 5–10 lb; pink flesh; delicate flavor

Australian salmon (*Arripis trutta*)

Australian salmon bass—kabeljou

Cherry (*O. masou*)—also called Japanese or masu salmon

Chinook (*O. tshawytscha*)—also called quinnat, king, spring, and tyee salmon; the first and last months of its life are spent in fresh water and the remainder in salt water; 5–30 lb; high fat content; excellent flavor, soft texture; deep pink to white flesh; caught in Alaska

Coho—also called silver salmon; 4–9 lb; high fat content; light to dark pink color

Chum (*O. keta*)—also called keta, fall, and dog salmon; 7–8 lb; lower fat content; light pink flesh

Danube (*Hucho hucho*)—also called huchen; caught in the Danube

Pacific salmon (*Oncorhynchus* spp.)

Pink (*O. gorbuscha*)—also called humpback or humpy; 4 lb; low fat content; soft flesh; caught in the Great Lakes

Sebago salmon (*S. sebago*)

Shark salmon (*Lamna nasus*)

Silver (*O. kisutch*)—also called coho, red salmon, and silversides; North Atlantic

Sockeye (*O. nerka*)—also called red or blueback salmon; caught along the Pacific coast

Stages of growth:

Parr—a young fish (to 8 in.) before leaving fresh water

Smolt—2 yrs when it goes to sea for the first time

Grilse—2–6 lb, when it returns from sea to fresh water (to its birth place) for the first time

Kelt—fish that has spawned

Mature—slighter form

Consumed: fresh; salted; pickled; smoked; dried; canned in oil; frozen

one 1-in.-thick steak = 8 oz

Types	Flesh			Oil
	Color	Flavor	Texture	
Chinook (highest quality)	Deep pink to white	Excellent	Firm, tender	Rich
Chum	Gray-white	Peculiar	Soft	Little
Pink (most common)	Light pink to brownish	Fine	Soft	Little
Silver	Pale	Good	Fair	Little to med.
Sockeye	Deep orange	Fine	Firm	Rich to med.

Salmon type	Composition			
	Moisture (%)	Protein (%)	Fat (%)	Ash (%)
Chinook	64	19	16	1.1
Chum	76	21	4	1.2
Pink	76	20	4	1.2
Silver	75	20	5	1.2
Sockeye	66	21	10	1.4

Cholesterol 30 mg/3 oz (canned); calcium 167 mg/3 oz (canned, with bone)

See also **fresh water fish**

See Part 2: Cholesterol Control; Fish and Shellfish, Composition: Fish, Smoke-Cured; Fish, Storage;

656 salmon (*Oncorhynchus* spp.; *Salmo* spp.)

Food, Composition; Frozen Food Storage; Glutamate; Minerals, Food; Salmon and Trout; Vitamin D, Fish; Vitamin D, Food

salmonberry (*Rubus spectabilis*) A salmon-colored, wild raspberry

Salmonella A genus of gram-negative, rod-shaped, non-spore-forming bacteria that are facultative anaerobes including a group of pathogens causing gastroenteritis (and a variety of other illnesses); there are about 1500 different serotypes. Salmonellae are the second most common type of food-poisoning (infection) bacteria; the salmonella death rate for infected people is low; optimum temperature for growth is 98–100°F; bacteria killed by heating to 150–180°F for 15 min; the human infection is called salmonellosis, which can be obtained by eating food with large numbers of salmonellae growing in it, from contact with people who are infected, or from contact with a carrier. Animals can harbor *Salmonella* spp. without obvious gross infection.

Prevention: Keep food below 40°F or above 140°F.

See Part 2: Egg Specifications; Food Poisoning, Bacteria; Illness from Food; Infectious Agents; Infectious Diseases, Food-Borne; Intestinal Microorganisms; Intestinal Microorganisms in Triple-Sugar Agar; Microbiological Media; Microbiological Standards, Dairy; Microorganism Reactions on Differential Tube Media

salmonellae See Part 2: Bacterial Food Borne Illnesses

salmonellosis A salmonella infection in humans

See Part 2: Bacterial Food-Borne Illnesses; Diseases, Food-Borne

salmonette See **goat fish**

salmon fry A smolt

salmon oil See Part 2: Iodine and Saponification Values

salmon, smoked Salmon (with head and backbone removed) that has been dry-salted and heavily cold-smoked with juniper wood

salmon trout 1) Char. 2) Lake trout. 3) Sea trout
See **freshwater fish**

salmo-sa A snake wine

salmura A blue cheese made from ewe's milk and placed in brine

saloio cheese A cheese made from skimmed cow's milk

saloio, queijo de A cheese made from goat's and ewe's milk

salometer See **salimeter**

salpicao A smoked sausage made from pork

salpicon A stuffing

salsa Sauce

salsa cruda An uncooked sauce made from tomatoes, chilies, and onions

salsa para enchilada Enchilada sauce

salsa verde A green sauce made with tomatillos, chilies, onions, and garlic

salsiccia A fresh, rope-style, highly spiced (with paprika) Italian sausage made from finely cut pork

salsicce A moist or semidry, uncooked, unsmoked Italian sausage made from fine- or medium-chopped, pork and/or beef stuffed into pork or sheep casings; a type of chorizo

salsiccia An uncooked, unsmoked American sausage made from medium- to coarse-chopped, highly spiced (with paprika) fresh pork; available in large-diameter ropes, links, or rings; Must be cooked before serving

salsify (**goatsbeard**; **oyster plant**; **vegetable marrow**; **vegetable oyster**; *Tragopogon porrifolius*) A biennial plant grown for its cylindrical white root, which is used as a cooked vegetable (oyster-flavored) and is similar to parsnip (but smaller and darker), and for its leaves, which are used as a salad; black salsify [the root is larger (20 × 5 cm) and of better quality] is a different plant (*Scorzonera hispanica*).

Varieties:

Sandwich Island

Sandwich Island Mammoth—white-fleshed, tapering root (8 × 15 in.); season 120 days; baked, creamed, and used in soups

White—white-skinned root

2800 seed/oz; seed $\frac{1}{2}$ oz/100-ft row; germination period 14–20 days; thin to 2–3 in. in rows 16 in. apart; needs 120–140 days of growing weather; frosty weather improves root flavor.

1 serving = $\frac{1}{3}$ – $\frac{1}{2}$ lb

To cook: boil in acidulated water (roots will darken when cut unless placed in acid, e.g., lemon juice and water) for 20–35 min; parboil or sauté

Storage: 32°F; 90–95% relative humidity; on refrigerator shelf or in crisper; storage life 2 months; can be left undug in the garden to freeze

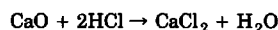
See Part 2: Minerals, Food; Planting Density; Root Crop Characteristics; Storage; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Plants; Vegetable Yields

salsify, black (*Scorzonera hispanica*) (A different plant than salsify) a black-skinned root that is similar in size and superior in flavor to salsify

salsiz A chorizo made from pork and beef; a dry, uncooked, unsmoked Swiss sausage made from fine-, medium-, or coarse-chopped, heavily seasoned beef and pork, fermented and stuffed into beef or artificial casings

sal soda See **baking soda**

salt An ionic chemical compound formed when the hydrogen of an acid is replaced by a metal, e.g.,



1) Inorganic salts are formed from the positive ion or radical of a base combined with the negative ion or radical of an acid. Common (table) salt is sodium chloride (NaCl), which is used as a condiment, to flavor, season, and preserve foods, and to cure hides. Table salt is important nutritionally and accelerates lipid oxidation; iodized salt (0.01% potassium iodine added) supplies iodine; excessive intake of (table) salt can cause problems for people with kidney disease and/or high blood pressure. Magnesium carbonate and calcium phosphate are added (1%) to table salt as anticaking agents. Flavor potency decreases in frozen foods.

Composition: dry matter 100%; ash 99.6%; calcium 0.15%; magnesium 0.14%; phosphorus 0.05%; potassium 0.01%; sodium 45.53% [1938 mg/tsp salt (5 g)]; copper 3 mg/kg salt; iodine 0.14 mg/kg salt; iron 5.5 mg/kg salt; manganese 4 mg/kg salt; zinc 7.7 mg/kg salt

Salt added to fire wood produces a yellow flame.

Storage: room temperature; may be stored indefinitely

1 barrel = 280 lb

1 qt = 2.6 lb

50 lb = 1 bu

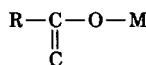
1 lb = $1\frac{1}{2}$ cups

1 cup = 290 g (10.2 oz)

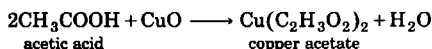
1 tbsps = 1 oz

Table salt added to water lowers its freezing point (about 2°F for every 1% of salt added) and raises its boiling point. *See also* **brine**

2) Organic salts: The generalized formula is



where M is a metal, e.g.,



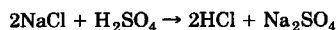
A metallic salt of a fatty acid is called a soap.

See Part 2: Boiling Points, Sodium Chloride, Calcium Chloride; Brine, Meat Curing; Chloride Salt, Injury; Fish, Smoke-Cured; Ham, Curing; Hide Curing; Hide Layers; Hides, Salt Absorption; Meat Curing Ingredients; Normal Solutions; Reagents, Normal Solutions; Salt Brine; Salt, Brine Table; Salt Penetration Rate; Salt Solution, Freezing; Water Activity, Organisms and Food

salt analysis Determined by digesting the sample with nitric acid in the presence of excess silver nitrate; the silver ion precipitates the chlorides, and the amount of silver nitrate used can be determined by titrating the excess with ammonium thiocyanate; the quantity of chloride can thus be calculated and the results reported as sodium chloride.

salt beef Usually dried brisket

salt cake Sodium sulfate (Na_2SO_4), a salt of sulfuric acid found naturally in the western United States; made by the reaction



salt cod Dried codfish (*Gadus* spp.)

salted fish A general term for dried fish

salt, flake (Kosher salt) Coarse salt made by evaporating salt brine

salt-free diet A diet that contains 150–500 mg sodium per day

salt hay (marsh hay) Hay grown on wet, salty areas; makes a good mulch but does not break down easily

saltimbocca Thin veal covered with prosciutto and sage leaf and sautéed in butter

saltine crackers Two crackers (6 g) contain 70 mg sodium

salt-marsh caterpillar (wooly bear; *Estigmene acrea*) A moth larva; can consume large quantities of lettuce

salt meat Dried beef, goat, lamb, mutton, or pork

salt peter (saltpetre, niter) Can be any of the following:

Chile salt peter (cubic nitre, sodium nitrate)

Ordinary salt peter; Bengal salt peter; nitre; potassium nitrate

Wall salt peter; Norway salt peter; calcium nitrate

Chile salt peter and ordinary salt peter are used in meat curing and as a source of nitrite for botulism control.

salt peter, Chile As mined, 48–75% sodium nitrate (NaNO_3) and 20–40% sodium chloride (NaCl)

salt peter, ordinary Potassium nitrate (KNO_3)

salt pork Salt-cured pork

Sodium content (raw) 399 mg/oz (28 g)

salt-rising bread A wheaten bread that uses *Clostridium perfringens* as a rising agent

salt stick A crisp, pencil-shaped French bread with a salt coating

salty (saline) Describes the taste sensation of sodium chloride

Salvador, strictly hard bean An aromatic, medium-body coffee

salvia Sage

Salway A variety of freestone peaches

samarium (Sm) A rare-earth element of the lanthanide series; Group IIIB of the Periodic Table; at. no. 62; at. wt. 105.35; oxidation states +2, +3; electron configuration 2–8–18–24–18–2 orbit K L M N O P

sam-bal tempo-jak *See* tempoyak

sambuca An herb liqueur flavored with elderberry (*Sambucus* spp.) and liquorice (*Glycyrrhiza glabra*)

sam-cheou A rice wine or a rice beer

samne A clarified butter made by churning yogurt or kefir

samneh Rendered butterfat

samovar A metal container that is used for boiling water to make tea

samp Corn that has been ground larger than mean and smaller than hominy *See* **hominy**
See Part 2: Cereal Composition

samphire (poor man's asparagus; sea fennel; *Crithmum maritimum*) A piquant, aromatic perennial; cooked like asparagus; the leaves are used to make pickles or, are used in salads.

Types:

Golden samphire (*Inula crithmoides*)

Marsh samphire or glasswort (*Salicornia herbacea*)

Often used in place of fennel, French St. Peter's cress, prickly samphire, or saltwart

samp hominy Coarse hominy grits. *See also:* **hominy**

sample A part taken to represent the whole of a production run or shipment; e.g., a collection of items drawn from a lot *See* **curtailed sampling; double sampling; random sample; representative sample; sequential sampling; single sampling**

sample size The appropriate size of a sample, determined in the following ways.

Paired analysis: With a given size sample, the odds are 1:1 that a difference of δ could be detected at the 5% level,

$$\delta = \frac{s_D t_{0.05}}{\sqrt{n}}$$

δ = difference to be detected

s_D = sample standard deviation

df = degrees of freedom ($n - 1$)

n = sample size in each group

t = student t at 0.05

To determine sample size, state the difference to be detected; because t changes with n , guess at n and solve, adjust size n , resolve until desired value is obtained.

Group analysis (difference between means):

$$\delta = \frac{\sqrt{2} st}{n} \quad \text{or} \quad n = \frac{2t^2 s^2}{\delta^2}$$

n = sample size in each group

s = estimate of standard deviation

t = table value [for $df = 2(n - 1)$]

δ = difference to be detected

Analysis of variance:

$$\delta = \frac{(Q_{a,f})(s_0)F_{f,f_0}}{n}$$

s_0 = estimate of standard deviation

$f_0 = df$ in s_0

a = treatments in new experiment

n = individuals per treatment

$f = a(n - 1)$ of new experiment

δ = difference to be detected

$Q_{a,f}$ = table value

F_{f,f_0} = table value ($f = f_1$; $f_0 = f_2$)

Probability = (1 - probability of success or probability of detecting δ if it exists)

sample standard deviation (s_D) A measure of sample variability

In paired analysis:

$$s_D = \sqrt{\frac{\sum d^2}{n - 1}}$$

$D = X_1 - X_2$

$\bar{d} = (\sum D)/n$

$d = D - \bar{d}$

n = number of pairs

X_x = observations

sampling inspection The evaluation of material by inspecting some of the material

sam see mein Shredded meat and vegetables in noodles

samshu A rice wine *See* **sake**

samsø A Swiss cheese made from cow's milk

samsoe A large-eyed, firm-texture cheese (45% butterfat) made from cow's milk

samsou A rice wine

sancerre 1) A dry, fragrant, white wine. 2) A valençay-type cheese made from goat's milk

san-chau A thin soy sauce

sanction A document authorizing parts and materials to be bought either in a stated quantity or for a stated period of time

sanctity of contracts *See* **contract sanctity**

sand (silica) Granules of impure silicon dioxide (SiO_2); sandy soils (which are 50% or more sand) are light and dry rapidly; the addition of organic matter generally improves water-holding capacity.

ft^3 dry sand = 110 lb

See Part 2: Fertilizer; Insulation; Insulation, Conductivity Values; Soil Classes

sandalwood oil An East Indian essential oil used in flavoring; a volatile oil obtained by steam distillation of the wood of *Santalum album*; used as a flavoring agent in food; sp. gr. 0.964–0.980

Storage: full, tight, glass container in a cool, dark place

See Part 2: **Essential Oils**

san danielle ham A country ham

sand cherry (*Prunus pumila*) A shrub that bears sweet, dark fruit

sand dab (*Limanda ferruginea*) A saltwater flatfish

Composition: protein 16.7%; fat 0.8%

See **flounder**

sand eel (sand launce) A food fish of the northeastern Atlantic *See* **whitebait**

sanders agar *See* Part 2: Microorganism, Media

sandfish (*Arctoscopus japonicus*) A Japanese food fish

Sandhill cattle Cattle from the sand hills of western Nebraska

sand launce (*Ammodytes* spp.; *Gymnammodytes* spp.) A food fish of the northeastern Atlantic

sand shark A finfish that is used for food and has light meat and light to moderate flavor

sand sole A food fish

European (*Solea lascaris*)

Pacific flounder (*Psettichthys melanostictus*)

See **sole**

sand trout *See* **sea trout**

sandwich Two pieces of bread with a filling of meat, jelly, peanut butter, etc., between them; also made as an "open sandwich," for which the "filling" is placed on one slice of bread and is usually covered with gravy; named for the Earl of Sandwich

See Part 2: Portion Size

sandwich cookie Available in chocolate or vanilla; one $1\frac{3}{4}$ -in. cookie ($\frac{3}{8}$ in. thick) contains 50 calories.

sandwich spread A mixture of meat, salad dressing, and pickle relish
Composition (pork, beef): moisture 60%; protein 8%; fat 17%; carbohydrate 12%; ash 2.8%

sandy Describes a fine, granular, dry texture

San Francisco salami A salami made from medium-chopped pork and beef with dried skim milk

sangak A triangular, sourdough flatbread made from 85–87% extraction flour

sangaree A spiced drink made of wine or spirits (brandy, gin, or whiskey) with sugar and water

sang-hak A fish sauce made from anchovies

sang-hap A fish sauce made from anchovies

Sangiovese A grape variety used in Italy to make a full-bodied, well-balanced, red wine that is improved by age

sangria A punch made with red wine

sang-suhn kook A fish soup

Sangue di Giuda A red, Italian, table wine

Sanho A breed of cattle obtained by crossing native Mongolian cows with Siberian and Friesian bulls; native to northeastern Inner Mongolia; black and white (dairy) or brown and white (dual-purpose, beef, and milk)

sanitary Hygienic; pertaining to health

sanitary can An open-top can with soldered side seams

sanitation Cleaning or cleanliness; the process of keeping something free from contamination; the practice of reducing the number of microorganisms as a protective measure for cleanliness and health; the process of making an object safe to use

sanitize To reduce the number of bacterial contaminants to a safe level, connoting cleanliness

sanitizer A cleaning preparation; a substance that reduces microbial population levels; an effective germicide

Types:

Amphoteric compounds

Halogens—bromine; chlorine; iodine

Quaternary ammonium

e.g., chlorinated trisodium phosphate

See Part 2: Sanitizers; Santizing Chemicals

San Jose scale (*Quadraspidiotus perniciosus*) A scale that infests the bark, foliage, and fruit of pear; other hosts are ornamental trees and shrubs as well as other deciduous fruit trees (e.g., apple, apricot, cherry, gooseberry, nectarine, peach, plum, and quince)

Damage: the sucking insect attacks branches and causes red spots to form on apples

Contrl: insecticide

Sanka Proprietary name for a coffee from which most of the caffeine has been removed

san michele A mandarin-orange liqueur

San Pierre No. 1 A black and white breed of hogs produced from a Berkshire and Chester White cross

sansa The residue from olives after oil has been removed

san severo Any of several wines grown in southeastern Italy

White—dry; high alcohol content

Red—produced in Montepulciano

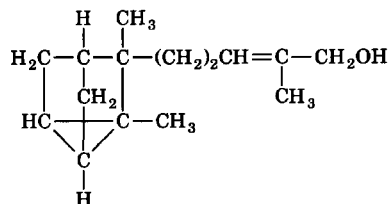
san simon A mild-flavored, dark yellow, smoked, provolone-type cheese made from cow's milk

Santa Claus melon (Christmas melon) An oblong melon (6 × 12 in.) with thick, sparsely netted green skin with black and yellow splotches; it has a sweet, green-yellow flesh and is the best melon for winter storage.

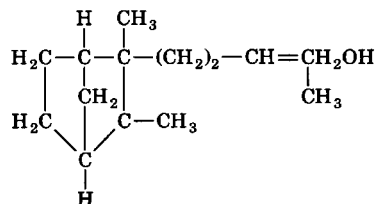
Santa Gertrudis The first breed of beef cattle originated in the United States, developed by R. J. Kleberg of King Ranch, Kingsville, Texas; the breed originated from Brahman bulls of the Nellore strain and Shorthorn cows and are approximately $\frac{5}{8}$ Shorthorn and $\frac{3}{8}$ Brahman; they have almost no hump and are deep red in color. See also **Monkey**

See Part 2: Beef and Dual-Purpose Cattle

Santalol



α isomer



β isomer

Obtained from sandalwood oil; used as a sandalwood-like flavoring agent in food; sp. gr. 0.964–0.976

Storage: fill, tight, glass container in a cool, dark place

santalyl acetate Obtained by acetylation of santalol; used as a sandalwood-like flavoring agent in foods; sp. gr. 0.980–0.986

Storage: full, tight, glass container in a cool, dark place

Santa Maddalena 1) A wine-producing area of northern Italy. 2) A dry red wine

sante cheese A soft, fermented, Kosher cheese made from fresh milk

santol A type of mangosteen; pickled fruit

See Part 2: Fruit Classification; Fruit Storage

santos See **Brazilian santos**

san-xuat A fish sauce made from anchovies

sao See **cream cracker**

são jorge A piquant-flavored, crumbly cheddar cheese

sao-o-juhn Fried shrimp

SAP 1) Subject to approval of price. 2) Sodium acid pyrophosphate

sap The natural circulating juice in a plant or tree; primarily a sugar solution; a few species also contain latex, which is different from sap.

sapago See **sapsago cheese**

sap beetle An insect pest of most fruits and vegetables bores into and eats the fruit, transmitting rot-causing organisms

Control: remove insect-damaged fruit

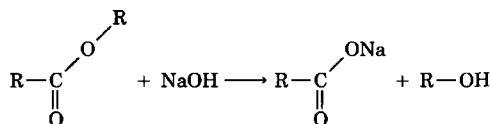
saperasi A light red wine

sapindor A green, spicy, herb liqueur

sapo Soap; sodium salt of a fatty acid

sapodilla (**mamey**; **mamnee apple**; **naseberry plum**; **sapote**; **sawos manila**; **zapota**; **Achras zapota**) A medium-sized tree that produces a brown fruit (1.5–6 in.) with delicious, soft, yellow-brown, gray, or red-yellow pulp and one or two black seeds; the flavor is somewhat like brown sugar. The fruit can be eaten fresh (raw) or cooked. Cuts in the bark yield a latex called chicle, the base for chewing gum. See Part 2: Fruit Composition

saponification The reaction of a fatty acid ester (usually a triglyceride) and an alkali-metal compound; the products are a soap (a metallic salt of a fatty acid) and an alcohol.



saponification value (or number) analysis The number of milligrams of potassium hydroxide required to saponify 1 g of fat, determined by adding an excess of potassium hydroxide to fat, saponifying the fat, and then titrating the excess potassium hydroxide with a standard acid; from the saponification value it is possible to calculate the mean molecular weight.

See Part 2: Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Wheat Products, Composition

saponins A glycoside, found in plants, that foams (suds) when shaken with water and makes an excellent emulsifier

sapor Taste

sapota See Part 2: Fruit Composition; Fruit Storage

sapote (sapota) A fruit with an appearance like that of green (or yellow-green) apple without an indentation in the bottom; eaten fresh or used in preserves; ripen at room temperature

Storage: refrigerate

See **sapodilla**

sapote mamey See **mamey sapote**

sapro- A prefix used to indicate rotten or putrid

sapsago A low-fat small, hard, pale green cheese made from cow's milk

sapsago cheese A hard, light, sweet, greenish dessert cheese from Switzerland; a clover (dried alpine clover) supplies the unique color and flavor; made from skimmed and soured cow's milk, buttermilk, and whey; ripened for 5 months and sold in small (4 in. high, 3-in. diam.) cone shapes; used in seasoning
Composition: moisture 37%; protein 41%; fat 7–8%; salt 4.5%

See Part 2: Cheese Characteristics

sapucaia nut The nut of the palmito tree

saracen Buckwheat

saraimandie A starter culture used to inoculate sake

Saran See **polyvinylidene chloride**

sarap Wine

Saratoga chop Lamb chops made from the inside shoulder muscle that has been rolled and skewered
See Part 2: Lamb Cuts

Saratoga water A mineral water from New York

sarawak A white pepper

sarciado A mixture of fowl, meat, or seafood with eggs and tomatoes

sarcina Any coccus (especially of the genus *Sarcina*) that divides to form a cuboidal-packet arrangement of cells (containing eight or more cells)

See Part 2: Spoilage, Protein Foods

sarco A prefix used to indicate flesh

sarcocystis A parasite (especially of the genus *Sarcocystis*) that is found in the skeletal muscle fibers of all classes of livestock and man

sarcolemma A membranous envelope (composed of proteins and lipids) approximately 100 Å (7.5–10 nm) thick surrounding the muscle fiber; the cell nuclei are just inside this covering (muscle fiber covered by a lipid bilayer and the plasmalemma)

sarcomere A repeating unit of muscle structure, the area between two adjacent Z lines of a muscle fiber

sarcoplasm The cytoplasm of muscle cells; surrounds the myofibrils; equivalent to protoplasm

sarcoplasmic reticulum A network surrounding the myofibrils of a muscle

sardellrings Rolled (with or without capers) filleted anchovies packed in olive oil

sardine A small saltwater food fish of the herring family

Australia—*Sardina neopilchardus*

California—Californian (*Sardinops sagax*) pilchard

England—pilchard (*Sardinops neopilchardus*)

India—*Sardinella fimbriata*

Japan—Japanese pilchard (*Sardinops melanosticta*)

Maine—*Clupea harengus*

Northeastern Pacific—*Sardinops caerulea*

Northwestern Atlantic—*Clupea pilchardus* pilchardus

Northwestern pacific—*Sardina melanosticta*

Scandinavia—brisling (*Clupea sprattus*)
 South Africa—*Sardina ocellata*
 Southwestern Pacific—*Sardinops sagax sagax*;
 may be identical to the northern Pacific species
 Available canned in salted oil, mustard sauce, with
 green peppers in oil, with red (hot) peppers in oil, or
 in tomato sauce; ageing improves sardines.

Styles:

Small fish

"Packed in olive oil"—boiled in peanut oil and
 packed in olive oil

"Sardines in olive oil"—boiled and packed in
 olive oil

"Packed in salad oil" or "packed in vegetable
 salad oil"—cottonseed oil

Larger fish—6-7 large sardines in sauce per No. 1
 oval (16-oz) can

Tomato sauce

Mustard sauce

Spiced vinegar sauce (several kinds)

Country of origin	Fish used	Packed in
American (i.e., domestic)		Mustard; tomato sauce; other spices
Atlantic Pacific	Small herring Various young fish (including California sardine)	
France	Young pilchard	Oil; spices; truffles; pickles; herbs
Norway	Sprats (brisling); sild	Smoke-flavored
Portugal	Young pilchard	Oil
Spain	Young pilchard	Oil

Commonly used types:

Small sea herring (*Clupea harengus*)— $3\frac{3}{4}$ – $6\frac{3}{4}$ in.
 long; packed in natural oil, tomato sauce, or
 mustard sauce.

European pilchard (*Sardina pilchardus* or *Clupea
 pilchardus*)

Brisling (brisling sardines) or sprat (*Clupea sprat-
 tus*)— $3\frac{1}{2}$ – $4\frac{3}{4}$ in. long; packed in olive oil

Type of pack:

One layer—6–12 sardines per can

In mustard sauce—6–12 sardines per can

Two layers—14–26 sardines per can

Cross-packed—30–38 sardines per can

Equivalents:

1 cup = 160 g (5.6 oz)

Usual serving = 3.5 oz

1 sardine, canned, solids, and liquids = $2\frac{1}{3}$ oz

Composition (canned, solids): moisture 62%; protein
 24%; fat 11%; ash 3%; calcium 0.4% (with bone);
 sodium 552 mg/3 oz [(85 g) drained], 338 mg/3 oz
 [(85 g) in tomato sauce]; cholesterol 119 mg/3 oz

See Part 2: Calcium, Daily Recommendations; Fish
 and Shellfish, Composition: Minerals, Food; Ri-
 boflavin, Food; Unsaturated Fatty Acids; Vitamin D,
 Food

sardine oil The fatty oil obtained from pressing sar-
 dines

	Number of carbons	%
Saturated	14	5–6
	16	10–15
	18	2–3
Unsaturated	16	13
	18	24
Polyunsaturated	20	26
	22	19

Properties:

Acid number—0.57

Iodine value—170–193

Saponification value—191

Specific gravity (20°/4°C)—0.9384

See Part 2: Fats and Oils, Characteristics; Fats and
 Oils, Physical and Chemical Properties; Iodine and
 Saponification Values; Titer, Fats and Oils

sardo A hard cheese made from cow's and ewe's milk

sargasso (*Sargassum* spp.) Any of several edible
 seaweeds; used in salads

sari-sari A mixture of stewed vegetables

sarno An uncooked, unsmoked or smoked American
 sausage made from medium- to coarse-chopped beef
 and pork, with no garlic, fermented and/or dry or
 semidry and available in links, rings, and large-diam-
 eter casings

sarn seh A snake wine

sarrazin 1) Buckwheat. 2) A blue cheese made from
 cow's milk

sarsaparilla 1) (*Smilax officinalis*) A tropical climb-
 ing vine; the root, has a very acrid taste, is used as a
 flavoring. The term also refers to any of various other
 species of the genus *Smilax*. 2) A beverage flavor
 made from the root of any of several species of the
 genus *Smilax* and carbonated water or mineral wa-
 ter

sarteno An esbareich-type cheese

sasde A golden, hard, pressed cheese made from
 sheep's milk

sashi Fat marbling

sashimi Thinly sliced raw fish or meat that is dipped
 in sauce before eating

sassafras (ague-tree; *Sassafras albidum*) An ex-
 tract of the bark or root of a tree of the laurel family;
 used as flavoring in food and as an herbal tea

See Part 2: Essential Oils

sassella A dry Italian red wine

sassenage A hard blue cheese made from cow's milk
 with rennet added

satay Beef, chicken, or mutton that is marinated in
 soy sauce, garlic, sugar, and tamarind juice and
 broiled on skewers

satellite cell A mononucleated, spindle-shaped cell
 that is closely applied to the surface of a myofiber and
 lies within the endomysial sheath surrounding the
 myofiber; this kind of cell is the source of regenerated
 cells in damaged muscle and contributes to the growth
 of hypertrophied muscle tissue.

satiety The state of being satisfied to the fullest or of experiencing satisfaction of the appetite; the feeling or state of being fed to full capacity; fulfilled; property of satisfying; lacking appetite; not hungry

satiety value The degree of satisfaction provided by a food, measured by how long it takes to become hungry again after having eaten; food providing a sense of comfort

sation Planting or sowing

satsuma (*Citrus reticulata*) A large, juicy tangerine. *See* tangerine

saturated 1) Describes a carbon atom each of whose valences forms a single bond with another atom, which may or may not be carbon. *See also* alkane. 2) Describes a solution that contains the maximum amount of a substance that can be held in solution in a given solvent at a given temperature. *See also* saturated solution. 3) Describes something that is, completely permeated, e.g., with water

See Part 2: Beans, Peas, and Nuts; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Characteristic; Fats and Oils, Composition; Fish and Shellfish, Composition; Fruit Composition; Fuel, Heating Value; Grain Products, Composition; Meat Composition; Poultry Composition; Saturated Fatty Acids; Sausage Composition; Soups, Composition; Sugars and Sweeteners, Composition; Tallow, Beef, Triglyceride Mole Percent Composition; Vegetable Composition

saturated fatty acid ($C_nH_{2n+1}COOH$) A fatty acid containing carbon atoms joined together by single bonds; has a higher melting point and is harder than an unsaturated acid of the same chain length

Principal natural saturated fatty acids:

Butyric—4 carbons
Caproic—6 carbons
Caprylic—8 carbons
Capric—10 carbons
Lauric—12 carbons
Myristic—14 carbons
Palmitic—16 carbons
Stearic—18 carbons
Arachidic—20 carbons

It is recommended that 10% or less of total caloric intake should come from saturated fatty acids.

saturated hydrocarbon *See* alkane

saturated solution A solution that has dissolved all of a given product that is capable of dissolving under normal conditions; there is an equilibrium reached between the saturated solution and the undissolved solute that is a function of the temperature

saturated steam Air-free, pure steam

saturnism Lead poisoning

saturno A southern Sicilian wine

satvic *See* Part 2: Fatty Acids and Their Properties

Satzeling A black and white, lop-eared pig from Hunan (south-central) province, China

sauce A liquid mixture placed over a food to alter its flavor

See Part 2: Fruit Sauces; Sauce, Barbecue; Sauce, Beef Steak; Sauce, Thick; Sauce, Tomato; Sauce, Worcestershire; Storage Times; White Sauce

saucealone Garlic mustard

sauce alone A potherb

saucisse Fresh sausage

saucisse a frire paysanne A moist, uncooked, unsmoked French sausage made from fine and medium chopped, mildly seasoned beef and pork and stuffed into a pork casing

saucisseau choux A moist, cooked or uncooked, smoked Swiss sausage made from medium chopped, medium seasoned pork with chopped cabbage added and stuffed into a beef or pork casing

saucisse au foie A moist, cooked or uncooked, smoked Swiss sausage made from medium chopped, medium seasoned beef and pork and stuffed into a beef, pork, or artificial casing

saucisse au vin blanc A moist, uncooked, unsmoked French sausage made from coarsely chopped, mildly seasoned pork and stuffed into pork or sheep casings

saucisse blanche a frire A moist, uncooked, unsmoked French sausage made from finely chopped, mildly seasoned, beef and pork and stuffed into a sheep casing

saucisse cocktail A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned beef, pork, veal, and goat and stuffed into 18–22 mm sheep or artificial casings

saucisse d' auvergne A pork salami. A dry, uncooked, unsmoked French sausage made from medium or coarsely chopped, mildly seasoned pork that is fermented and stuffed into a pork casing

saucisse de biere A moist, cooked, smoked French sausage made from medium chopped ($\frac{1}{2}$ inch plate), medium seasoned beef and pork and stuffed into beef, pork, or artificial bladders

saucisse de coufinne A moist, uncooked, unsmoked French sausage made from medium or coarsely chopped, mildly seasoned pork that is fermented and stuffed into beef or pork casings. Product is to be cooked

saucisse de foie A moist or semidry, uncooked, unsmoked French sausage made from medium or coarsely chopped, medium seasoned pork with liver added and fermented and stuffed into pork casings. Product is to be fried

saucisse de fracfort A moist, cooked or uncooked, smoked French sausage (mortadello) made from finely chopped, mildly seasoned pork, which may be fermented and stuffed into 20–26 mm sheep or artificial casings

saucisse de Lorraine A coarsely chopped, very thin salami

saucisse de Lyon A dry, uncooked, unsmoked French sausage (salami) made from mixed fine and coarsely chopped, mildly seasoned pork that is fermented and stuffed into a pork casing

saucisse de montbeliard A pork, farmer sausage; a semidry, uncooked, smoked French sausage made from coarsely chopped, mild or medium seasoned pork and fermented and stuffed into pork casings

saucisse de morteau Pork, farmer sausage; a semidry, uncooked, smoked French sausage made from coarsely chopped, mild or medium seasoned pork and fermented and stuffed into a pork casing

saucisse de Strasbourg A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned beef and pork and stuffed into 18–24 mm sheep or artificial casings

saucisse de Toulouse A moist, uncooked, unsmoked French sausage made from medium to coarsely chopped, mildly seasoned pork and fermented and stuffed into pork or sheep casings

saucisse de viande fleischwurst A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned beef and pork and stuffed into 40–60 mm beef ring casings

saucisse Marseillaise A moist, uncooked, unsmoked French sausage made from medium chopped, medium seasoned meat and stuffed into beef or artificial casings

saucisse ou cervelas a curie A semidry, uncooked, unsmoked French sausage made from coarsely chopped, mildly seasoned beef and pork and fermented and stuffed into beef, pork, or sheep casings

saucisse on saucisson de foie A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned beef, pork, and veal and stuffed into pork or artificial casings

saucisses Poitou Charente A moist, uncooked, unsmoked French sausage made from medium or coarsely chopped, mildly seasoned pork and fermented and stuffed into beef or pork casings. Product is to be cooked

saucisse Viennoise A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned lamb and pork and stuffed into sheep or artificial casings

saucisson A moist, semidry or dry, uncooked, smoked Swiss sausage made from medium or coarsely chopped, medium seasoned pork and stuffed into beef or pork casings

saucisson brioche A moist, cooked, unsmoked French sausage made from medium chopped, mildly seasoned pork that is fermented and embedded in a hard bun and not stuffed into a casing

saucisson cuit a l'ail A moist, cooked, smoked or unsmoked French sausage made from fine and medium chopped, mildly seasoned pork and goat and stuffed into beef or artificial casings

saucisson de Cambridge A moist, cooked, smoked French sausage made from finely chopped (mixed with diced ham meat, poultry, and beef tongue), mildly seasoned beef, pork, and goat and stuffed into beef or artificial casings

saucisson de cracovie A moist, cooked, smoked French sausage made from finely chopped (mixed with $\frac{1}{8}$ inch plate ground pork), mildly seasoned pork and veal

saucisson de foie a tartiner A moist, cooked, smoked French sausage made from finely chopped, high fat (55%), mildly seasoned pork and stuffed into pork or artificial casings

saucisson de foie et veau A moist, cooked, smoked French sausage made from finely chopped, mildly seasoned pork and veal and stuffed into pork or artificial casings

saucisson de francfort A moist, cooked, smoked French sausage made from finely chopped (mixed

with $\frac{3}{8}$ – $\frac{1}{2}$ inch plate ground head meat), mildly seasoned pork and veal and stuffed into beef, sheep, or artificial casings

saucisson de jambon A moist, cooked, smoked French sausage made from finely chopped (mixed with diced ham or shoulder), mildly seasoned pork, veal, and goat and stuffed into beef, sheep, or artificial casings

saucisson de Langue A moist, cooked, smoked French sausage made from finely chopped (mixed with diced pork and pork tongue), mildly seasoned pork with added pistachio nuts and stuffed into pork casings

saucisson de Lyon A moist, cooked, smoked French sausage made from finely chopped (mixed with $\frac{1}{4}$ inch plate ground meat), mildly seasoned pork and veal and stuffed into 55–60-mm beef or artificial casings

saucisson de Paris A moist, cooked, smoked or unsmoked French sausage (mortadello) made from medium chopped, mildly seasoned pork and fermented and stuffed into beef casings

saucisson Neuchâtelois A moist, cooked or uncooked, smoked Swiss sausage made from medium or coarsely chopped, medium seasoned pork and stuffed into beef or pork casings

saucisson noir schwarzwurst A moist, cooked, smoked French blood sausage made from medium chopped, medium seasoned pork with rinds, ears, head, feet, fatty tissue, and onions and stuffed into beef casings

saucisson princesse A moist, cooked, smoked French sausage made from finely chopped (mixed with diced beef and tongue), mildly seasoned beef and pork and stuffed into beef or artificial casings

saucisson Vaudois A moist, cooked or uncooked Swiss sausage made from coarsely chopped, medium seasoned, pork and stuffed into pork casings

sauerbraten Beef soaked in water, vinegar, onion, salt, pepper, and bay leaves; cooked with soaking liquid and sour cream

sauerkohl Sauerkraut

sauerkraut Shredded cabbage (*Brassica oleracea*) and $2\frac{1}{2}$ salt are fermented (16–22°C for 1–2 weeks) to produce 1.8–2.5% lactic acid (pH 3.5–3.8). Microorganism:

Lactobacillus brevis

L. plantarum

Leuconostoc mesenteroides

Pediococcus cerevisiae

Major acid produced is lactic acid; air should at least be partially excluded; salt is used and sometimes vinegar.

Procedure: 2 inches of shredded cabbage is placed in a 10 or 20 gallon keg or crock; the layer is covered with a handful of salt; layering continues until container is filled then stomped until liquid covers cabbage; a weighted wooden top keeps cabbage submerged; fermented for up to 1 month in a warm place; stored in cool place.

May be flavored with peppers, pimientos, tomatoes, and various spices. Cook in water or wine, 1–4 hours

50 pounds of cabbage = 14–15 quarts, sauerkraut

1 cup, canned, drained solids = 5 ounces (oz)

1 cup, canned, solids and liquids = 8 oz

1 cup, canned, juice = 8.6 oz

1 serving = $\frac{1}{2}$ pound

Available: canned, refrigerated, semifresh

Composition (canned solid and liquid): moisture 93%; protein 1%; fat 0.2%; carbohydrate 4%; ash 2%; sodium 1755 mg/cup

Storage: 34–38°F

See **pickle**

See Part 2: Spoilage, Carbohydrate Foods; Standards, Processed Fruit and Vegetable Products; Vegetable Composition

sauerkraut juice Filtered, fermented cabbage juice

sauerruben Pickled turnip; lactic acid fermentation of shredded turnips that is made like and tastes like sauerkraut

sauger (*Stizostedion canadense*) A white meat, light to moderate flavor, food finfish

Saumon du Rhin Grilled or baked salmon

saumur A sparkling wine

saurel (*Trachurus trachurus*; *T. symmetricus*) Atlantic horse mackerel; a saltwater food fish

saury (*Cololabis brevirostris*; *C. saira*) A Pacific, food fish

saury pike (skipper; *Scomberesox saurus*) An Atlantic, food fish

sausage 1) Meat mixed with salt and spices and often stuffed into casings, natural or artificial, Comminuted meat; chopped pork and/or beef with added salt, curing salts, and seasoning; may or may not be cooked and/or smoked and may or may not be fermented. Includes cold cuts.

Types:

Cooked—bologna, frankfurter, liver sausage

Cooked specialties—head cheese, meat loaf, minced ham

Dry or semidry—cervelat, salami

Fresh—bockwurst, fresh pork sausage, fresh thuringer

Uncooked, smoked—Polish, smoked country style

2) A moist, uncooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat mixtures and stuffed into beef, pork, sheep, or artificial casings or not stuffed into a casing. 3) Lay people often restrict this term to fresh pork sausage

Storage:

Frozen—30 days

Fresh or thawed, package opened—3 days under refrigeration

See Part 2: Animal Foods, Composition; Frozen Food Storage; Frozen Meat Storage Time; Meat Composition; Meat, Frozen Storage; Meat Storage; Pork Carcass, Retail Yield; Pork Storage; Pork Yield; Portion Size; Riboflavin, Daily Recommendations; Sausage Composition; Sausage Identification; Sausage, Types; Thiamin, Food; Water Activity, Organisms and Food

sausage, beef A moist, uncooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat and stuffed into beef, pork, sheep, or artificial casings or not stuffed into a casing

sausage bulls Lean, aged, male cattle

sausage casing The covering of a sausage, made of natural or synthetic materials See also **casing**

Storage: 40–45°F, 85–90% relative humidity

sausage chipolate A moist, uncooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat and stuffed into sheep or artificial casings

sausage dough A sausage emulsion

sausage, English-style A type of sausage that has a lower meat content, higher water content, and higher filler content than most American sausages

sausage meat A moist, uncooked, unsmoked British sausage made from medium or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat and not stuffed or stuffed into an artificial casing

sausage pork A moist, uncooked, smoked or unsmoked American or British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat and stuffed into beef, pork, sheep, or artificial casings or not stuffed into a casing

Composition (smoked link): moisture 39%; protein 22%; fat 32%; carbohydrate 2%; ash 4.7%

sausage, pork and beef A moist, uncooked, smoked or unsmoked American or British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef and pork and stuffed into beef, pork, or sheep casings or not stuffed into a casing

Composition	Smoked links	Smoked links with NFDM	Smoked links with NFDM and flour
Moisture (%)	52	54	57
Protein (%)	13	13	14
Fat (%)	30	28	21
Carbohydrate (%)	1.5	2	4
Ash (%)	2.7	3.3	3.2

sausage seasoning See **pork sausage**

sausage, skinless A moist, uncooked, unsmoked British sausage made from fine or medium chopped, mild or medium seasoned beef, lamb, pork, veal, or goat and not stuffed into a casing

sausage, smoked, country-style A moist, cooked or uncooked, smoked American sausage made from medium or coarsely chopped, mildly seasoned beef and pork and stuffed into pork or artificial casings. Product available in link or unlinked casing form

sausage, snack A dry, cooked, smoked American sausage made from medium chopped, mild, medium, or heavily seasoned beef and pork that is fermented with starter cultures and stuffed into narrow (10 mm or less) diameter sheep or artificial casings

sausage, tomato A moist, uncooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef, lamb, pork, veal, and goat and stuffed into beef, pork, sheep, or artificial casings or not stuffed into casing

sausage trimmings Approximately 12% of a normal hog carcass

sausage, whole hog A moist, uncooked, unsmoked American sausage made from medium or coarsely

chopped, mild, medium, or heavily seasoned meat used in proportions as normal to a single animal carcass and stuffed into pork, sheep, or artificial casings or not stuffed into a casing. Available in small diameter links, rolls for slicing, and machine formed or extruded patties; sausage may be prepared with fresh or frozen meat from swine: maximum of 50% trimmable fat; maximum of 3% added water

saute (sauter) Cooked in a small amount of fat over high heat; pan fry

sauterne (Barsac) A full, sweet, white, French wine produced in Bordeaux (southwest France) and made from overripe grapes. A full, sweet (some are dry), white (to golden), table (some are dessert) wine. Grapes are allowed to become overripe and are attacked by *Pourriture noble* or gray mold (*Botrytis cinerea*) that extracts water from the juice and concentrates the sugar.

Type:

Chateau sauterne—very sweet, dessert
Chateau yquem—sweet, best quality
Haut sauterne—sweet, dessert, or table

Communes:

Barsac—chateau d'Yquem
Bommes
Fargues
Prignac
Sauternes

sauvignon blanc A fresh, crisp, aromatic, sweet or dry, white wine

savarin Round, often doughnut-shaped, open textured, wheat flour, sponge cake; often moistened with sugar syrup and center filled with fruit and cream

savaron A tomme de savoie-type cheese made from whole milk

saveloy 1) A dried, light to highly seasoned, cooked, smoked pork sausage. 2) A moist, cooked, smoked British sausage made from fine or medium chopped, mild or medium seasoned pork and stuffed into beef, pork, or artificial casings. 3) A moist, uncooked, unsmoked Australian sausage made from fine chopped, mildly seasoned beef and stuffed into beef or pork casings

savoia A creamy, semisoft, mild-flavored, cheese made from cow's milk and ripened by surface bacteria

savoie A tomme de savoie-type cheese

savor Taste or flavor; also the odor of prepared food

savory (bean herb) 1) Dried, brown-green leaf ($\frac{3}{8}$ inch in length) and flowering tops of an herb in the mint family; 16-inch plant (annual and perennial forms) used as an herb; sold whole or ground; the green or dried leaves and young shoots are used to flavor stuffing, meat pies, sausage, sauces, and vegetables. Thin plants to 6 inches apart in rows 16 inches apart. Leaves are dried, reduced to a fine powder, and stored in an air-tight container;

1 plant = $\frac{1}{4}$ cup of leaves

Summer (*Satureia hortensis*)—annual; highest grade

Winter (*Satureia montana*)—perennial; not as aromatic as summer

Used as a tea

Source: Albania, France, Yugoslavia

Composition: moisture 8.5–9.5%; protein 6–7%; fat 5–7%; carbohydrate 68–69%; fiber 15–16%; ash 9–10% (max. 13.5%)

2) Agreeable flavor; appetizing

See Part 2: Spices, Microbial Content

savory oil, summer A volatile oil obtained by steam distillation of the *Satureia hortensis* plant; used as a thyme-like, flavoring agent in food; sp. gr. 0.874–0.954

Storage: full, tight, glass container in a cool, dark place

savoy (*Brassica oleracea bullata major*; *B. oleracea* var. *capitata*) A dwarf-type, loose-headed, cabbagelike plant with crimped leaves

Types:

Early
Best of All
Early Drumhead
Savoy King
Midseason
Ice Queen
Tom Thumb
Late
Omega
Winter King

See **cabbage**

See Part 2: Vegetable Composition, Part I

savoy medlar See **rock medlar**

sawdust Small particles of wood produced by sawing; good for mulching or composting purposes; should be composted before adding to soil; often mixed with limestone before application

See Part 2: Insulation; Wastes, Agricultural and Industrial

sawos manilla See **sapodilla**

Say's stink bug (*Chlorochroa sayi*) A $\frac{1}{2}$ -inch-long, shield-shaped, green sucking bug covered with white dots

Sb Symbol for the element antimony

SBG See Part 2: Microorganism, Media

sbrinz A large, very hard and dry (ripened 2–3 years), cheese made from cow's, sheep's, or goat's milk; has small eyes

Sc Symbol for the element scandium

scab 1) A field disease of citrus fruit that produces an irregular scabby area or warty protuberances that are buff to dark olive green in color. It affects only the skin of the fruit and does not spread during storage; scab areas are not invaded by other fruit rotting organisms

Australia and Argentina

Tryon's scab—*Sphaceloma fawcettii* var. *scabiosa* (Mc Alp and Tryon), Jenkins

North America

Orange scab—*Elsinoe fawcettii*, Bitanc and Jenkins

South America

Sweet orange scab—*E. australis*, Bitanc and Jenkins

2) A fungus disease of nectarines that appears as black spots or freckles on the surface of the fruit. 3) A fungus (*Cladosporium carpophilum* Thuem) that makes light brown or olive-colored spots on the leaf

or petiole of apple, peach, apricot, and nectarine trees. The fruit spots may be dark or scabby

Control: plant resistant varieties; destroy all fallen leaves; fungicide spray

4) A fungus (*Gibberella zeae*) disease that attacks the seedling and head of wheat plants. Pink-colored masses of spores are evident. Milling value of wheat is lowered; when fed to animals will make them sick

5) A disease of pears (*Venturia pyrina*); disease of apples (*V. inaequalis*)

scabbardfish A food fish

Northeast Atlantic—*Leplidopus caudatus*

Northwest Atlantic—*Trichiurus lepturus*

scad A food fish

Australian—*Trachurus novae-zelandiae*

Northeast Atlantic—jack mackerel

Oceania (horse mackerel)—*Trachurus novae-zelandiae*

scald 1) To rinse with boiling water, or to heat just below boiling (180°F). 2) A defect of stored apples indicated by irregular-shaped tan or brown areas; a defect or blemish or brownish discoloration that occasionally develops on the skin of apples or other fruit in cold storage; usually does not seriously affect eating quality. 3) Large, dark brown, abruptly sunken areas often producing an acorn shape are sometimes found on Florida valencia oranges stored in a modified atmosphere. Oxygen levels below 5% and carbon dioxide levels higher than 5% often lead to this condition

scaldberry Blackberry

scaldfish (*Arnoglossus laterna*) A food fish

scalding Briefly heating in hot water or steam. Hog and chicken scalding water temperature 150–160°F; packing plants (hog) with long tanks often use lower temperatures; birds, 60–90 seconds *See also semi-scalding*

Type	Temp (°F)
Semiscald	125–130
Subscald	131–140
Hardscald	140

scalding water additives Compounds used to aid in hair removal of a hog carcass; must be rinsed from carcass: caustic soda, dioctyl sodium sulfosuccinate, lime, methyl polysilicone, sodium carbonate, sodium dodecylbenzene sulfonate, sodium hexametaphosphate, sodium laurylsulfate, sodium metasilicate, sodium tripolyphosphate, trisodium phosphate

scale 1) A thin layer of hard material firmly attached to a substrate, e.g., boiler scale. 2) A standard set of values (degrees) established for measuring temperature, etc. 3) A device for measuring weight. 4) An insect that forms small disklike bodies on twigs and fruit and disfigures it. Tiny soft-bodied insects less than $\frac{1}{8}$ inch in diameter that have a waxy covering; crawlers (young) appear in mid May, move to new feeding sites, molt, and lose their legs; they suck

plant juices, cause discolored (red) spots on leaves, stems, and fruit. Waxy shells on citrus fruit are secreted by this insect and the most common are California red scale [*Aonidiella aurantii* (Maskell)], Chaff scale [*Parlatoria pergandii* (Comstock)], Florida red scale [*Chrysomphalus anonidum* (L.)], Glover scale [*Lepidosaphes gloverii* (Packard)], purple scale [*Lepidosaphes beckii* (Newman)], yellow scale [*Aonidiella citrina* (Coquillett)]

Control: fruit tree oil spray

5) Flat, horny, outgrowth on skin of fish. 6) Range of numbers or geometrical divisions for measuring *See calico scale; cottony maple scale; European fruit lecanium; grape mealybug; Italian pear scale; San Jose scale*

scaled sardine (*Harengula pensacolatae*) A food fish

scalenus Muscle in the neck area between the first rib and the last four cervical vertebrae

scaling test A means to evaluate the intensity of a specific trait on a structured (descriptive words; adjective) or unstructured (continuum line; no words) scale

scallion [(often incorrectly called shallots); ci-boule; Welsh onion] A member of the onion family. Bulbless green onions; green onions that resemble leeks that have no bulbs; sometimes used to describe green onions, shallots, and leeks

scallop (escallop) 1) A lean, bivalve mollusk; shellfish; fan-shaped shell (2–3 inches in diameter); the large ($\frac{1}{2}$ –2 inches thick) adductor (eye) muscle that controls shell movement is used as food (the rest of the muscle is very soft and not used as food); meat may be white, tan, orange, or pink; 20% edible (average 20% protein). Meat is firm, low in fat, and has a mild, sweet, nutty odor. Sold in natural cylindrical form (100–200 per gallon)

Kind	Ounces per serving
Bay	4–6
Breaded	4
Sea	4–6
Shucked (63% yield)	5

1 bushel of scallops = $2\frac{1}{2}$ –3 quarts of meat
Frying oil temperature: 177–190°C (350–375°F) Composition (raw): moisture 80%; protein 15%; fat 0.2–0.7%; carbohydrate 3%; ash 1%; sodium 217–225 mg/3 oz (85 g); cholesterol 45 mg/3 oz (85 g)
Storage: coldest part of the refrigerator; use in 2 days
2) To bake small bits of food in a casserole usually in a cream sauce; baking cooked vegetables with white sauce and a topping of breadcrumbs in a casserole; to bake food that has been cut into pieces and combined with sauces or liquids
See Part 2: Fish and Shellfish Composition I; Fish, Storage; Frozen Food Storage; Frying Time; Minerals, Food

Scallop type	Variety	Where caught	Description
Bay	<i>Argopecten irradians</i>	North Atlantic	Small; 70-120/lb
	<i>Pecten caurinus</i> , Weatherwane, Alaska	Pacific, North America	More tender and flavorable
	<i>Pecten aequisulcatus</i>	Pacific North America	
	<i>Pecten laquaetus</i>	Pacific, Japan	
Cilico	<i>Aequipecten gibbus</i>	Atlantic, North America	Slightly larger than bay
Commercial	<i>Pecten meridionalis</i>	Australia	
Common	<i>Pecten yessoensis</i>	Japan	
Coquille St. Jacques	<i>Pecten maximus</i>	Northeast Atlantic	
Great	<i>Pecten jacobaeus</i>	Atlantic, Mediterranean	
Iceland	<i>Chlamys islandica</i>	North Atlantic	
New Bedford	<i>Pectinidae</i> <i>tenuicostata</i>	Massachusetts	
New Zealand	<i>Pecten novaezealandiae</i>	New Zealand	
Queen	<i>Chlamys opercularis</i>	Atlantic	
Scallop	<i>Pecten varius</i>	Atlantic	
Scallop Saucer	<i>Amusium balloti</i>	Australia	
Sea; Giant;	<i>Pecten magellanicus</i> ;	Atlantic,	Large;
Smooth	<i>Placopecten magellanicus</i>	North America	10-70/lb
Variegated	<i>Chlamys varius</i>	Atlantic, Mediterranean	

scalloped 1) Sliced vegetables, meat, or fruit cooked in liquid in the oven and served in the dish in which they were cooked. 2) A white to yellow, flat, summer squash with scalloped edges

scalloped summer squash See marrow

scaly apple See custard apple

scamorze (scamorza; scamozza) A mozzarella-type cheese made from buffalo's or cows' milk; usually pear shaped; a semihard cheese packaged in small rolls; has a creamy white interior, and is mild and slightly firm. It has an elastic texture and when heated, becomes stringy.

See Part 2: Cheese Characteristics

scamp See grouper

scampi (*Nephrops norvegicus*) Saltwater crustaceans; prawnlike seafood; giant prawn with shrimp-like flavor See prawn

scandium (Sc) A metallic element; at. no. 21; at. wt. 44.96; oxidation state +3; Group IIIB of Periodic Table
electron configuration 2-8-9-2;
orbit K L M N

scapula A flat, triangular, shoulder blade bone; spine is lateral and bone is attached only to the humerus. Dorsal bone of the pectoral girdle

See Part 2: Beef Rib Nomenclature; Bone

scapular cartilage Cartilage on the blade bone on the end opposite the area where it is attached to the humerus

scarification Abrasion of the seed coat that increases water permeability and, therefore, germination

scarlet fever A viral disease of children accompanied by high fever

See Part 2: Illness from Food

Scarlet Runner (*Phaseolus coccineus*) A variety of green bean (usually a climber, but there are a few nonclimbing varieties) with a pod 8-24 inches in length

scavenge To search for and retrieve small amounts of usable material after the major part has been removed, e.g., to scavenge a corn field

scent A light, usually pleasant odor or smell See odor

scented tea A blend of black oolong or green tea with herbs, spices, oils, or flavors to achieve a desired aroma or flavor

Schaal test An accelerated rancidity test. Food is heated at 145°F and the time until rancidity is detected by odor (or peroxides) is measured

See Part 2: Antioxidant Activity

schabzieger (green cheese) A rindless, dry (grating), pungent Swiss cheese made from skimmed milk and mixed with blue melilot; initially it is green (melilot) but turns brown with age See glarner

schamser (rheinwald) A cheese made in Switzerland from skimmed cow's milk with rennet added

schaum torte A meringue and fruit pastry

schaumwein A general term for sparkling wine

schenk beer A young beer

schenkbier *See beer, draught*

Schiedam Holland gin

schinken Ham

schinkenbockwurst A moist, cooked, smoked eastern German sausage made from finely chopped, mild-seasoned beef and pork and stuffed into a pork casing

schinkenmettwurst A coarse, pork salami

schinkenpolnishce A beef or pork farmer sausage; a semidry, uncooked, smoked eastern German sausage made from coarsely chopped, medium seasoned beef and pork that is fermented and stuffed into pork casings

schinkenspeck A dry-cured and cold-smoked ham with fat and skin still attached

schickenwurst 1) A product that contains an emulsion made of ham, pork, beef, or a combination of them; also contains at least 50% ham chunks. 2) A moist, cooked, smoked or unsmoked, Swiss sausage made from coarsely chopped, medium seasoned beef and pork and stuffed into beef or artificial casings; a moist, cooked, smoked or unsmoked, Austrian sausage made from coarsely chopped, medium seasoned (nitrite) beef and pork and stuffed into artificial casings with a diameter of greater than 60 mm *See bologna, ham-style*

schizo- A prefix meaning divide

schlackwurst A semidry, uncooked, smoked eastern German Sausage (cervelat) made from medium chopped, mildly seasoned beef and pork that is fermented and stuffed into a pork casing

schloss cheese (castle; schlosskäse) A soft-cured, Austrian, limburger-type cheese made with rennet added; a tangy, golden, brick cheese with a soft, ripened texture

schlosskäse A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria *See schloss cheese*

schmierwurst A beef or pork cervelat

schnapps A clear, high-alcohol spirit, fermented (20–30°C) from cereal (usually rye) grain and then distilled; a liquor manufactured by fermenting cooked potatoes; a strong alcoholic drink; vodka

schnitt A collective term for semihard cheese

schonland A creamy, semisoft, mild flavored cheese made from cow's milk and ripened by surface bacteria

School Breakfast Program A U.S. government program that offers children a nutritious breakfast prepared at school and available to all public and nonprofit private schools and child care institutions often free or at a reduced cost *See Child Nutrition Act of 1966; Child Nutrition Programs*

school feeding Provision of food to children while they are in school

schottenziger A ricotta-type cheese made from cow's milk

schou oil An emulsifying agent

schrippen A wheat flour roll

schrock A plant having a toxic principle

See Part 2: Poisonous Plants

schusterjungen A rye or rye and wheat flour roll

schutzen *See limburger cheese*

schutzenwurst A moist, cooked, smoked Swiss sausage made from medium seasoned beef, pork, and veal and stuffed into beef or artificial casings

schwartenmagen 1) A moist, cooked, smoked western German sausage made from coarsely chopped, medium seasoned pork with ground skin added and stuffed into a pork casing. 2) A moist, cooked or uncooked, unsmoked, Swiss sausage made from coarsely chopped, medium seasoned beef, pork, and veal and stuffed into artificial casings or not stuffed into casings

schwartzbrot *See rye*

Schwarzbunte German Friesian cattle

schwarzenberg cheese A cheese made from partly skimmed, cow's milk with rennet added

Schwarzthal A milk breed of goat native to Switzerland

schwarzwald A round, wheat and rye bread

schwarzwalderschinken Smoked, country ham

schwarzwurst A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from fine, medium, or coarsely chopped, medium seasoned beef and pork and stuffed into beef, pork, or artificial casings

schweinekopsulzwurst A moist, cooked, unsmoked eastern German sausage made from medium seasoned pork and stuffed into pork or artificial casings

schweinsbratwurst A moist, cooked or uncooked, unsmoked Swiss sausage made from medium or coarsely chopped, medium seasoned beef, pork, and veal and stuffed into beef, pork, or sheep casings

schweinswurst A moist, cooked, smoked Swiss sausage made from coarsely chopped, medium seasoned, beef and pork and stuffed into pork or sheep casings

Science and Education Administration (SEA) An organization (1978) of USDA made by merging the following agencies: Agricultural Research Service (ARS), Cooperative State Research Service (CSRS), Extension Service (ES), and National Agricultural Library (NAL)

scion (clone) Part of a plant, usually the desired cultivar, grafted or budded to a specific rootstock or interstem; a shoot of one season's growth used in budding or grafting

sclerocystosis *See granulation*

scleroprotein *See albuminoid*

sclerotin *See pectin*

Sclerotinia A type of mold

See Part 2: Mold, Food; Rot Spoilage; Spoilage, Carbohydrate Foods

Sclerotium *See Part 2: Mold, Food*

sclerotium rot A rot of citrus fruit caused by a soil fungus (*Sclerotium rolfsii*); is inhibited by not allowing the fruit to touch the ground and refrigerated storage. On grapefruits and lemons it is yellowish green and slightly darker than normal; on oranges it is dark brown with slightly lighter margins. The decay is fairly soft and watery

scolymus (golden thistle; Spanish oyster plant; Spanish salsify; *Scolymus hispanicus*) A white-rooted plant that is a member of the salsify family and is used as such. Flavor between salsify and parsnip

scone (baking powder biscuit) A small (8 inch) cake made of wheat, barley, or oatmeal; used chiefly in England and Scotland as a tea cake; a sour milk or buttermilk bun that has a crumbly texture and may contain currants and eggs; it may be chemically aerated

scoop A utensil used to measure volume

Scoop number	Volume
40	1 $\frac{3}{5}$ tbsp
30	2 $\frac{1}{5}$ tsp
24	2 $\frac{2}{5}$ + tsp
16	$\frac{1}{4}$ cup
12	5 + tbsp
10	6 + tbsp
8	$\frac{1}{2}$ cup
6	10 + tbsp

See Part 2: Scoop Size

-scope A suffix meaning look at or observe

score To cut into the outer hard surface of a material; to make criss-cross cuts on the surface

scorzonera (black oyster plant; black salsify; viper's grass; *Scorzonera hispanica*) Similar to salsify; 2,000 seeds per ounce; 8–14 day germination period. A plant of the daisy family. The cylindrical root has a black skin and white flesh and is eaten as a cooked vegetable. Root contains inulin, a coffee substitute; leaves are used as salad greens

Scotch ale A strong ale

Scotch and water A highball of Scotch whiskey and water

Scotch broth, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	83.8	91.8
Protein (%)	4.0	2.1
Fat (%)	2.1	1.1
Carbohydrate (%)	7.7	3.9
Ash (%)	2.3	1.2

Scotch cap Wild raspberry

Scotch egg Hard-boiled eggs wrapped in sausage and cooked; served cold

Scotch ham A country ham

Scotch Highland A long-coated (black, brindle, red, light red, yellow, silver), hardy breed of cattle developed in the Hebrides Islands near west Scotland

See Part 2: Beef and Dual-Purpose Cattle

Scotch Manhattan See **rob roy**

Scotch oatmeal Ground oatmeal; not rolled oats

Scotch tender (chuck tender) Supraspinatus muscle that ties lateral to the scapula and dorsal to the spine

Scotch whiskey Whiskey made in Scotland primarily from barley malt heated over a smokey, peat-coal fire, which imparts a smokey taste; usually blended

scoter (*Melanitta nigra*) A black duck

Scottish Black Face See Part 2: Sheep Breeds

scour To clean by friction, usually with a metal wool or stiff brush

scoured wool Greasy wool that has been subjected to a cleaning process before manufacturing

scours Persistent diarrhea

scouse A seaman's term for vegetables and biscuit

Scoville The person who developed an organoleptic method for evaluating pungency (heat) of capsicum products

SCP See **single-cell protein**

scrabbed eggs Hard-boiled eggs mixed with butter, salt, and pepper

scrambled eggs Eggs mixed with milk or cream and fried with constant agitation

scraps Food scraps

scrap Waste; fragment; disconnected; leftover or discarded food

scrape To remove vegetable peel by running a knife at right angles over its surface

scraper A device (bell scraper) for scraping (rubbing the surface) to remove hair from hog carcasses

scrapple (paw-haus; ponhaws) A sausage that consists of pork and pork by-products (minimum 40% meat and/or meat by-products), meal or grain flour (buckwheat, corn meal, or rye), and seasoning (black pepper, mace, nutmeg, salt, and thyme); head meat, feet, hearts, tongues, and pork trimmings are cooked in water; bones are removed and meat is ground and cereal (usually corn meal) and/or soybeans added. A medium to coarsely chopped, cooked, unsmoked, American, jellied and/or specialty sausage available in links, loaves, rolls, or canned

scratched Whole, cracked, or coarsely cut grain

screened Separated into sizes by passing over or through screens

screening 100% inspection with rejection of all defective items

screening method A semiquantitative method used to quickly determine the presence or absence of compounds; enables rapid screening of large numbers of samples in less time than would be required by more accurate methods; positive results above a specific level require further analysis by an official method

screwdriver An alcoholic beverage made by placing ice cubes in a 6-oz glass, adding 1 $\frac{1}{2}$ oz (1 jigger) of vodka, filling with orange juice, and stirring

screw pine See **pandanus**

scribe See Part 2: Beef Rib Nomenclature

scrod A young codfish; market name for haddock or cod weighing 1.5–2.5 pounds. Sometimes called Boston scrod because many of the fish come from Boston See also **cod**; **haddock**

scrotum The skin holding the testicles

scrow Small bits of hide used to make glue

scrub Livestock of mixed or unknown breeding; inferior

scrumpy A high-alcohol cider

scruple (apothecary; s) A measure of weight

- 1 scruple = 20 grains
- = 1.2959784 grams (g)
- = 0.8333333 pennyweight
- = 0.7314286 dram (avoirdupois)
- = 0.333333 dram (apothecary)
- = 0.0457143 ounce (oz; avoirdupois)
- = 0.0416667 ounce (oz; apothecary; troy)
- = 0.00347222 pound (lb; apothecary; troy)
- = 0.002857143 pound (lb; avoirdupois)

scudding A process in cleaning hides prior to tanning; the hides are placed over a wooden beam and cleaned with a special knife

sculpin A light meat, light to moderate flavor, finfish

scup (menhaden; porgy; paugy; *Pagrus pagrus*; *Stenotomus versicolor*) A lean, sea-bream type of fish caught along the middle Atlantic coast; a sparidae-type of saltwater, food fish that averages 10 inches in length

scupl porgie A light meat, light to moderate flavor, finfish

scuppernong 1) Muscadine, a wine grape. 2) A white wine made from muscadine grapes

scurf (Jersey mark; rust; soil stain; *Momolochaetes infuscans*) A sweet potato disease that produces a black surface discoloration on the sweet potato

scurfs In polled animals small horning "buttons" attached to the skin but not to the skull in the area where horns are normally found

scurvy A disease caused by deficiency of vitamin C in the diet; symptoms are loss of weight, fatigue, and shortness of breath; gums become swollen and bleed and bruise easily

scutellum A layer that separates the embryo and endosperm of a seed; part of the germ

See Part 2: Corn Kernel; Wheat Kernel; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

Se Symbol for the element selenium

SEA See Science and Education Administration

sea arrow See squid

sea bass Several species of saltwater food fish; a lean, spiny-finned fish caught off both the Pacific and Atlantic coasts.

Variety and habitat:

- Barfish (*Morone mississippiensis*)—freshwater, North America
- Bass (*Dicentrarchus labrex*)—Mediterranean; North Sea
- Black (*Centropristis striata*)—Atlantic, North America
- Comber (*Serranus cabrilla*)—Mediterranean; Atlantic
- Giant (*Stereolepis gigas*)—Pacific, North America
- Japan (*Lateolabrax japonicus*)—Pacific, Japan
- Kelp (*Paralabrax clathratus*)—Pacific, North America
- Rock (*Centropristis philadelphia*)—Atlantic, North America
- Sand (*Paralabrax nebulifer*)—Pacific, North America

Sand Perch (*Diplectrum formosum*)—Atlantic, North America

Striped (*Morone saxatilis*)—Atlantic, Pacific, and freshwater, North America

White (*Morone chrysops*)—freshwater, North America

White Perch (*Morone americanus*)—Atlantic and freshwater, North America

Wreckfish (*Polyprion americanus*)—Atlantic

Yellow (*Roccus interrupta*)—freshwater, Europe

Types:

Black—Atlantic coast; 1½ pounds; firm white and delicately flavored flesh

Common (blackfish, black sea bass)—Atlantic coast

Grouper—3–20 pounds; firm, white, rich-flavored flesh

Baquette

Florida grouper

New Zealand grouper

Red grouper

Striped—Atlantic, Gulf, and Pacific coasts; 1–15 pounds; flakey, white flesh with minimum fat

White (not true bass but in the croaker family)—Pacific; 10 pounds

Sea bass (Japan)—*Lateolabrax japonicus*

See bass, white (California)—*Atractoscion nobilis*

sea bream Various species of the *Parellus centrodonatus* or *Sparidae* (including red bream) family

Sea bream, common—*Pagellus centrodonatus*

Sea bream, north Atlantic—*Brama* spp. and

Taractes princeps

Composition: Moisture 76–78%; protein 19–21%; fat 0.5–2%; carbohydrate 0%; ash 1–2%

sea bread Hardtack

sea buckthorn A shrub that produces an edible, orange-red berry

sea cole See sea kale

sea cow Manatee

sea date Shellfish

sea ear See abalone

seafood Food from the sea, including all types of vertebrate fish, shellfish, oysters, clams, etc.

Per serving: 0.5 pounds headless and dressed fish;

0.3 pounds of fillets or steaks

Storage: leakproof wrap in coldest part of refrigerator; use within 1–2 days

See Part 2: Frying Time; Microwave Processing Time; Portion Size

sea herring (Atlantic or Pacific herring) A fat, soft-finned fish caught almost worldwide

sea kail See sea kale

sea kale (sea cole; sea kail; silver beet; *Crambe maritima*) A plant of the mustard family whose

blanched leafstalks (head 15 cm) are used like asparagus; young shoots (cut when 4–6 inches, 6 week season) are used as greens; blanched leaves are used

as a salad; fresh curly fronds are used as a salad or like celery

Variety:

Lily white

Ivory white

sea-kale beet (chard; sea-kale spinach; Swiss chard; *Beta vulgaris cicla*) A plant that resem-

bles a beet but is grown for its leaves and leafstalk, which are boiled and consumed as a vegetable.

Midrib—substitute for sea kale

Rest of leaves—substitute for spinach

Lemon juice in cooking water keeps midribs white

Storage: Wash and drain; store in refrigerator crisper or plastic bag; use within 1-2 days

See **chard**

sea-kale spinach See **sea-kale beet**

seal To close hermetically; the point of hermetic closure See **closure**

See Part 2: Animal Foods, Composition; Glass Jar Tops

sea lettuce A green seaweed

sealing surface Part of the container surface that contacts the gasket

seam See Part 2: Can

seamer See **closing machine**

seam height See **seam width**

seam length See **seam width**

seamless One piece; without joint

seamless steel container A two-piece drawn-steel container

sea moss Carrageen See **carrageen**

seam out To separate muscles at the natural seam

seam thickness The maximum distance across (or perpendicular to the layers of the seam) the double seam of a can

seam width (length, height) The maximum distance of a can's double seam, parallel to the folds of the seam

sea oxeye A plant that is pickled and used as a condiment

sea perch (white perch; *Morone americanus*) A food fish

sea pie A suet crust containing beef stew

sea pike (snook) An Australian food fish

sea purslane See **orache**; **sea sandwort**

sear To brown, char, burn, or cauterize a meat surface by a short application of intense heat. Helps seal in meat juices when cooking

sea raven (*Hemitripterus americanus*) A food fish

sea robin (*Peristedion* spp.; *Prionotus carolinus*) a moderately lean, moderately dark flesh, food fish

sea rocket A weed that grows near the coast and whose young leaves may be used in salads

sea salt Sodium chloride obtained by evaporation of sea water; this salt is high in trace minerals

sea sandwort (notchweed; sea purslane) A weed that may be pickled or preserved like sauerkraut

seashell macaroni A shell-shaped pasta

seasoning A condiment, spice or herb (e.g. whole spice, ground spice, essential oils or oleoresin of spice, hydrolyzed plant protein flavorings, monosodium glutamate), sauce, dressing, or other stimulant added to food to enhance its flavor. May also contain salt and sweeteners. Food ingredients such as sugar and/or blends of spices; sometimes also includes salt and

pepper. A blend of two or more condiments, spices, or herbs that may contain other ingredients (commonly salt or sugar) added to food to enhance flavor

Soluble seasoning: spice oil or oleoresin placed on a salt or dextrose base.

Improves or enhances the flavor of the food; does not impart its own flavor, e.g., dressing, garlic, mustard, onions, pepper, salt, sauces

SEATO South-East Asia Treaty Organization

sea trout (gray trout; weakfish; *Salmo trutta trutta*) A lean, sharp-tooth, food fish

Type and habitat:

Gray (weakfish, squeteagues)—middle and south Atlantic

Spotted (speckled)—middle and south Atlantic and the Gulf

White (sand)—Gulf

sea truffle (*Venus verrucosa*) A ridged-shell, mollusk

sea urchin (*Echinoidea*) An edible (strong flavor), spiny, sea animal whose flesh and roe are used for food or used to make a sauce

seawater Water from the ocean ("sea" and "ocean" are not exact synonyms, as there are many enclosed bodies of water called seas, some of which are more saline than the ocean)

Composition: moisture 96.4%; NaCl 2.6%; MgCl₂ 0.4%; MgSO₄ 0.2%; CaSO₄ 0.1%; KCl 0.1%; trace percentages of bromine and many metals

seaweed Kelp (marine algae); Irish moss (carrageenin); available fresh and dried.

Uses:

Flavoring
Like chewing gum
Soup stock

Classes:

Brown algae (*Phaeophyceae*)—algin, laminarin, mannitol
Green algae (*Chlorophyceae*)
Red algae (*Rhodophyceae*)—agar, carrageenin, human food

Edible marine plants include (see each):

Agar-agar
Agar mar
Badderlocks
Carrageen
Dulse
Hai tai
Hair seaweed
Lettuce laver
Red laver
Red ware
Sargasso
Sea-wreck
Sloke

Composition (kelp, dehydrated): moisture 9-13%; protein 6.5%; fiber 6.5%; fat 0.5%; Ash 22-35%; nitrogen 2%; humus-forming material and alginates 63%

Good, slow acting, fertilizer containing all the major and trace elements

See Part 2: Minerals (Trace), Limits; Wastes, Agricultural and Industrial

sea wife (*Labrus vetula*) A wrasse used for soup

sea wrack See **hair seaweed**

sebaceous Glands that secrete fatty, tallowlike matter on the skin

sebago salmon (*Salmo sebago*) A food fish

sebastopol See **goose**

sec In beverages means dry (absence of sugar); in champagne means sweet

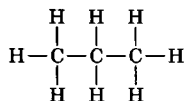
secant A trigonometric function: secant = hypotenuse/abscissa; also a straight line cutting through the circumference of a circle

secci disc A 20-cm disc with white and black quarters that is lowered into water to measure turbidity by the depth where it disappears

second (angle)

$$\begin{aligned} 1 \text{ second} &= 0.01667 \text{ minutes} \\ &= 0.0002778 \text{ degrees} \\ &= 4.848 \times 10^{-6} \text{ radians} \\ &= 3.087 \times 10^{-6} \text{ quadrants} \end{aligned}$$

secondary carbon A carbon atom that is united to a chain or ring by two of its valences being satisfied by carbon



secondary carbon

secondary host Host to a disease organism, usually without suffering any effects

secondary malnutrition Malnutrition mainly caused or aggravated by pathological conditions not directly caused by nutrient intake

second operation The last operation in double-seaming cans; initially formed hooks are now rolled tightly

section-comb honey See **comb honey**

security Residual clamping force remaining in closure application when the gasket is seated after container cooling

sediment Material that settles out of and falls to the bottom of a liquid; lees; dregs; precipitation in wine that indicates bottle age

seed 1) Fertilized and ripened ovule of a plant; mature ovula, composed of an external skin (perisperm or testa) and a nucleus (kernel)

Germination test: Place seed on a paper towel and keep moist and warm. Seed should sprout in a few days.

Storage for future planting: Dry, sealed container, cool (35–55°F) place

2) To remove seed. 3) Sprinkle with seed. 4) Introduction of crystal nuclei

See Part 2: Fruit and Nut Rootstock; Moisture in Biological Materials; Oils, Seed and Fruit; Orange Structure; Pulses, Nuts and Seeds Composition; Saturated Fatty Acids; Seed Composition; Seed, Germination; Unsaturated Fatty Acids; Wheat Grain; Wheat Kernel; Wheat Kernel Parts

seed cake 1) A sweet cake containing seeds. 2) Oil cake

seed coat The perisperm or outer skin of a seed
See Part 2: Corn Kernel; Wheat Grain; Wheat Kernel; Wheat Kernel Parts

seedling A young plant

seedling blight A rice disease caused by primitive soil fungi known as water molds

Causal organism:

Drill-seeded—*Helminthosporium oryzae*; *Phthium* spp.; *Fusarium* spp.; *Rhizoctonia solani*; *Sclerotium rolfsii*

Water-seeded—*Achlya* spp.; *Pythium* spp.

Control: seed treatment; shallow seeding if drilled in early spring; flooding

seedstalk The stem of the plant that produces the seed

see-ieu Soy sauce

seelach (coalfish) Smoked, dried coalfish

seen loan-ngon See **longan**

seethe to exhibit surface agitation, as boiling water

seg A male animal castrated after masculine features have developed

segedy A dry, uncooked, Australian sausage

segesta A well-balanced Sicilian wine

Types: red and white

segment A geometrical portion of a circle or sphere
See Part 2: Orange Structure

sego A plant of the lily family that has an edible root

segregation Cellular division (meiosis) in which the normal number of chromosomes is cut in half

seishu A rice wine used for seasoning

seivert (Sv) A unit of dose equivalent; it replaces the older term rem; for absorbed dose [gray (Gy)], 1 Sv = 100 rem

sekt Sparkling wine with characteristics of Rhine and Mosel; German champagne

selamathans Special meals eaten at celebrations

selar (Caranx) A dried fish

sele See **beref**

selective agar See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

selenite broth See Part 2: Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

selenite F broth See Part 2: Microbiological Media

selenium (Se) A nonmetallic element; at. no. 34; at. wt. 78.96; Group VIA of Periodic Table; oxidation states +4, +6, -2

electron configuration 2-8-18-6;
orbit K L M N

Vegetation grown on soils that contain selenium may cause alkali disease in animals; some evidence seems to indicate that small quantities may be an essential dietary factors; has a "sparing action" on vitamin E
Source: content in food depends on the amount available to the growing plant or animal

See Part 2: Grain Analysis; Water Drinking Standards; Wheat Products Composition

self-fed Animals have free access to individual components or mixed feeds

self-feeder A trough that is automatically kept full of feed so animals can eat as much and as often as they please

self-fruitful A plant capable of producing a crop, even if grown as a single or isolated plant
See **self-unfruitful**

self-rising flour A mixture of flour, salt, and baking powder (3-4%)

self-unfruitful A plant unable to produce full crops without the benefit of cross-pollination. See **self-fruitful**

sell by The date at which a product should be sold to allow the consumer a reasonable time to use it after purchase

sell date The final date on which the product should be sold

seller's lien Seller's right to withhold or to lay claim on goods sold, surrendering them only upon receipt of payment

seller's market When goods cannot easily be obtained and when the economic forces of business tend to cause goods to be priced at the vendor's estimate of value

selles-sur-cher A valençay-type cheese made from goat's milk that has a blue tinted rind and is covered with charcoal

selling order An order with a supplier to furnish a given amount of material at specified intervals until future notice

seltzer Effervescent, carbonic acid water

seltzer water 1) An effervescent mineral water from Germany. 2) An artificially carbonated water especially those in siphon bottles

semaji A coconut, press cake containing mold cilium and fried in oil

sempor A large bun with a layer of almond paste

semen The fluid produced by males that carries the spermatozoa; the average volume of semen introduced in one service is: boar, 200 cc, stallion 100 cc, bull 5 cc, ram 1 cc

Dairy cattle	Color codes
Ayrshire	Purple
Brown Swiss	Brown
Guernsey	Yellow
Holstein	Green
Jersey	Red

semenit Dried fish

semiboyled soap See **cold soap**

semibright wool Wool that is soil-stained but that can be scoured white; produced primarily in eastern part of Kansas, Nebraska, North and South Dakota, Iowa, Minnesota, Missouri, Oklahoma and Wisconsin.

semidry sausage Sausage made from beef and pork and prepared in a complicated and carefully controlled drying process. Will keep for a long period of time and is ready to eat. See **dry and / or semidry sausage**

semidwarf A tree 10-12 feet tall

semillon A dry (or semisweet), white, sauterne-type table wine that is aromatic and has a figlike flavor

semimembranosus A broad medial muscle of the thigh that runs from the ischium to the back of the tibia; the most medial and caudal muscle of the round

seminal vesicle A gland attached to the urethra that produces fluid to carry and nourish sperm

semipermeable membrane A membrane that permits passage of some substances but not others, depending on the size of their molecules

semirigid container Normally metal foil formed into a tray shape. It holds its shape in atmospheric pressure but cannot withstand internal or external pressure

semiscalding Using 125-132°F water to scald poultry followed by a mechanical picker

semisweet chocolate Solid in bar-shaped packages containing 1-oz squares; it is slightly sweet and melts easily

semisweet chocolate pieces Unsweetened chocolate plus cocoa butter, sugar, and a vanilla-type flavoring

semit A ring-shaped, wheat flour roll with sesame seeds

semitendinosus (eye of round) A round-shaped muscle of the thigh that runs from the ischium to the back of the tibia; it is caudal to the *biceps femoris* and caudal and lateral to the *semimembranosus*

semitendinous Composed in part of tendinous structure. See also **eye of round**; **semitendinosus**

semneh See **samne**

semolina A coarse flour; fine starchy endosperm of hard wheat (*durum*); it is yellow in color and used to prepare pasta products; known as purified middlings; middlings of *Triticum durum*; coarse, granular, high gluten flour made from durum wheat and used to make alimentary pastes, manufacture macaroni products or pasta, and for milk pudding, cake, molds, whips, and thickening. See **macaroni**

semolina meal A pale yellow meal made from the middlings of hard durum wheat; milled endosperm of durum wheat that contains less than 3% flour; used in macaroni products

See Part 2: Cereal Composition; Thiamin, Food

sendai miso A flavorful, red-brown, high salt paste made from soybean; often mixed with cereals

sendecho See **atole**

sendi Sweet, cloudy, white, palm sap wine

senecio A plant having a toxic principle
See Part 2: Poisonous Plants

senescence The phase of plant growth from maturity to death characterized by an accumulation of metabolic products, increase in respiratory rate, and a loss in dry weight, especially in fruit and leaves; the process that follows physiological maturity or horticultural maturity and leads to death of tissue

sense To perceive objectively by stimulation of organs of the body

sensitive Ability to receive impressions from external forces

sensory Examination by taste, smell, feeling, and appearance; quality of food as perceived by the senses. Replaces the term organoleptic

seokbakji Acidic, carbonated, oriental radish

sepal The calyx of a flower

See Part 2: Flower, Perfect

sepsis Poisoning caused by products of putrefaction

septic Infective, usually with pus-forming organism; causing or affected by putrefaction

septmoncel (jura blue) A semihard to hard, blue-veined, roquefort-type cheese made from cow's or goat's milk with rennet added

septoria leaf blight A fungus that causes circular leaf spots that are tan in the center with a purple margin on the leaves and canes of raspberry and blackberry plants.

Control: remove and burn infected areas; fungicide spray

septoria leaf spot 1) One of the most destructive leaf diseases in tomato plants; prevalent in middle Atlantic and north central states; infected leaves develop water-soaked spots that are circular, with gray centers and blackish borders.

Control: rotate crops; control weeds; maneb or zineb may be used as a chemical control

2) A sweet potato fungus (*Septoria bataticola*) that produces white spots on the upper surface of the leaves

septoria spot Spots or pits on citrus fruit caused by *Septoria citri*; the spots are surrounded by a green halo that later turns reddish brown. In advanced stages the pit extends deeply into the discolored rind

septum A partition between two cavities of the body

seqdelki A moist, cooked, smoked Polish sausage made from finely chopped, medium seasoned beef and pork sausage with plasma and textured vegetable protein added, and stuffed into a sheep casing

sequential sampling Sampling in which a decision to accept or reject a lot may be reached after one, two, three, or more sampling selections have been taken from the lot and inspected

sequester To combine with and hold

sequestrant (chelating agent) A chemical compound that reacts with metals to form a complex, thus minimizing the effect of the metal, also a food additive that will separate or segregate, usually in the inactive form, ingredients that will interfere with processing. Chemically bound minerals in beverages that might otherwise settle out and cloud the drink; e.g., in other fluids: chlorophyll, citric acid, EDTA, hemoglobin

serac A ricotta-type cheese made from cow's milk that is sometimes matured or smoked or spiced

Serbian coffee See **Turkish coffee**

Serbian-type salami A semidry, cooked, unsmoked Greek sausage made from finely chopped, medium seasoned beef and pork that is fermented and stuffed into artificial casings

serdelki (serdelowa) A cooked, smoked, Polish sausage

serdelowa See **serdelki**

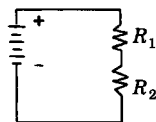
serendipity The sweet berry of *Dioscoreophyllum cumminsii*

serial Arranged in a series

sericin (silk gelatin) A protein cement used to hold the principal constituent (fibroin) together in silk fiber

sericulture Production of silk by raising silkworms

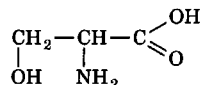
series circuit



R_T = Resistance total
 R_1 = Resistance in resistor #1
 Current (or amp) in each component is the same
 $R_T = R_1 + R_2 + \dots + R_n$

The total potential = algebraic sum of the potentials

serine A nonessential, monoamino-monocarboxylic-monohydroxy amino acid



Used as a nutrient or dietary supplement

Storage: tight container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

serology See **immunology**

serous A thin watery body fluid; pertaining to serum
 See also **serum**

See Part 2: Intestine, Cross Section

serra A soft, yellow, sharp cheese with small eyes, made from ewe's or goat's milk

serra da estrella A soft, acid cheese made from sheep's milk

serradayres A good red or white Portuguese wine

serrano A smooth-skinned, 1.5 inch long, 0.5 inch diameter, small, pointed, cylindrical shaped, chile pepper; medium green when fresh, red when mature; very, very hot

serrano chile A dark green to red, hot to very hot, 1-2 inch long, chile pepper; a substitute for jalapeno pepper See **serrano**

Serratia See Part 2: Spoilage, Carbohydrate Foods; Spoilage, Fat in Food

serratus dorsalis A back muscle that runs from the spinous processes of the thoracic vertebrae over the *longissimus dorsi* to the rib; in cross section it is most prominent on the lateral side of the *longissimus dorsi*

serré (seray) A whey cheese that is dried and mixed with herbs and butter

serum (blood) That part of the plasma remaining after clot, blood corpuscles, and fibrin have been removed (defibrinated)

Composition: moisture 90%; glucose 1%; fat 1%; NaCl 0.85%; Na bicarbonate and salts 0.15%; protein 7%
 Colorless liquid remaining after clotting (removal of corpuscles). It is different from plasma because fibrinogen has been removed. The serum of milk is whey

serum butter Butter made from the fat left in whey (a by-product of cheese making)

serum test A test to indicate the species of meat used and to detect adulteration. Rabbits are injected with solution of X-protein; the rabbit builds up antibodies against X-protein; if a meat is suspected of containing X-protein it is mixed with serum obtained from the rabbit and if X-protein is present it will be destroyed

Servings per pound (Meat) 675

by the serum and if it is not present, the serum will be unaffected

servelaati A moist, cooked, smoked Finnish sausage made from medium chopped meat and stuffed into 90-mm casings

servelat A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned beef and pork with pork fat added and stuffed into artificial casings

servelat, chub A moist, cooked, unsmoked Norwegian sausage made from medium chopped, mildly seasoned beef and pork and stuffed into artificial casings

servelat, Norwegian A moist, cooked, smoked or unsmoked Norwegian sausage made from medium chopped, mildly seasoned beef and pork and not stuffed into casings

service The act of mating

serviceberry (grape pear; juneberry; shadberry; sugar pea; whitebeam; *Pyrus domestica*) An acid, pear-shaped, red to black, tree fruit ranging from pea to crab apple size and consumed raw or used in jelly
See juneberry

serving A portion of food sufficient for one person
See Part 2: Fruit, Cooking; Fruit Servings Per Pound; Meat, Servings Per Pound; Vegetable Servings

Servings per pound (Meat)

		Price Per Pound									
		1.19	1.29	1.39	1.49	1.59	1.69	1.79	1.89	1.99	2.09
		Cost Per Serving									
		Servings per lb									
Beef											
Sirloin steak	2½	.48	.52	.56	.60	.64	.68	.72	.76	.80	.84
Porterhouse, T-bone, rib steak	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Round steak	3½	.34	.37	.40	.43	.46	.49	.52	.54	.57	.60
Chuck roast (bone in)	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Rib roast (boneless)	2½	.48	.52	.56	.60	.64	.68	.72	.76	.80	.84
Rib roast (bone in)	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Rump, sirloin roast	3	.40	.43	.46	.50	.53	.57	.60	.63	.67	.70
Ground beef	4	.30	.32	.35	.38	.40	.43	.45	.48	.50	.53
Short ribs	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Heart, liver kidney	5	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42
Frankfurters	4	.30	.32	.35	.38	.40	.43	.45	.48	.50	.53
Stew meat (boneless)	5	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42
Lamb											
Loin, rib, shoulder (chops)	3	.40	.43	.46	.50	.53	.57	.60	.63	.67	.70
Breast, shank	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Shoulder roast	2½	.48	.52	.56	.60	.64	.68	.72	.76	.80	.84
Leg of lamb	3	.40	.43	.46	.50	.53	.57	.60	.63	.67	.70
Pork, fresh											
Center cut or rib (chops)	4	.30	.32	.35	.38	.40	.43	.45	.48	.50	.53
Loin or rib roast	2½	.48	.52	.56	.60	.64	.68	.72	.76	.80	.84
Boston butt (bone in)	3	.40	.43	.46	.50	.53	.57	.60	.63	.67	.70
Blade steak	3	.40	.43	.46	.50	.53	.57	.60	.63	.67	.70
Spare ribs	1½	.89	.97	1.04	1.12	1.20	1.27	1.35	1.43	1.50	1.58
Pork, cured											
Picnic (bone in)	2	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
Ham, fully cooked											
Bone in	3½	.34	.37	.40	.43	.46	.49	.52	.54	.57	.60
Boneless & canned	5	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42
Shankless	4¼	.28	.30	.33	.35	.38	.40	.43	.45	.47	.50
Center slice	5	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42
Poultry											
Broiler, or ready-to-cook											
chicken	1½	.89	.97	1.04	1.12	1.20	1.27	1.35	1.43	1.50	1.59
Legs, thighs	3	.40	.43	.46	.50	.54	.57	.60	.63	.67	.70
Breast	4	.30	.32	.35	.38	.40	.43	.45	.48	.50	.53
Turkey, ready-to-cook											
Under 12 lb	1	1.19	1.29	1.39	1.49	1.59	1.69	1.79	1.89	1.99	2.09
12 lb & over	1½	.89	.97	1.04	1.12	1.20	1.27	1.35	1.43	1.50	1.59

(Continued)

676 serving

		Price Per Pound									
	Servings per lb	2.19	2.29	2.39	2.49	2.59	2.69	2.79	2.89	2.99	3.09
Cost Per Serving											
Beef											
Sirloin steak	2½	.88	.92	.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24
Porterhouse, T-bone, rib steak	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Round steak	3½	.63	.65	.68	.71	.74	.77	.80	.83	.85	.88
Chuck roast (bone in)	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Rib roast (boneless)	2½	.88	.92	.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24
Rib roast (bone in)	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Rump, sirloin roast	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Ground beef	4	.55	.57	.60	.62	.65	.67	.70	.72	.75	.77
Short ribs	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Heart, liver, kidney	5	.44	.46	.48	.50	.52	.54	.56	.58	.60	.62
Frankfurters	4	.55	.57	.60	.62	.65	.67	.70	.72	.75	.77
Stew meat (boneless)	5	.44	.46	.48	.50	.52	.54	.56	.58	.60	.62
Lamb											
Loin, rib, shoulder (chops)	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Breast, shank	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Shoulder roast	2½	.88	.92	.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24
Leg of lamb	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Pork, fresh											
Center cut or rib (chops)	4	.55	.57	.60	.62	.65	.67	.70	.72	.75	.77
Loin or rib roast	2½	.88	.92	.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24
Boston butt (bone in)	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Blade steak	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Spare ribs	1½	1.64	1.72	1.79	1.87	1.94	2.02	2.09	2.17	2.24	2.32
Pork, cured											
Picnic (bone in)	2	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55
Ham, fully cooked											
Bone in	3½	.63	.65	.68	.71	.74	.77	.80	.83	.85	.88
Boneless & canned	5	.44	.46	.48	.50	.52	.54	.56	.58	.60	.62
Shankless	4¼	.52	.54	.56	.59	.61	.63	.66	.68	.70	.73
Center slice	5	.44	.46	.48	.50	.52	.54	.56	.58	.60	.62
Poultry											
Broiler, or ready-to-cook chicken	1½	1.64	1.72	1.79	1.87	1.94	2.02	2.09	2.17	2.24	2.32
Legs, thighs	3	.73	.76	.80	.83	.86	.90	.93	.96	1.00	1.03
Breast	4	.55	.57	.60	.62	.65	.67	.70	.72	.75	.77
Turkey, ready-to-cook											
Under 12 lb	1	2.19	2.29	2.39	2.49	2.59	2.69	2.79	2.89	2.99	3.09
12 lb & over	1½	1.64	1.72	1.79	1.87	1.94	2.02	2.09	2.17	2.24	2.32
		Price Per Pound									
	Servings per lb	3.19	3.29	3.39	3.49	3.59	3.69	3.79	3.89	3.99	4.09
Cost Per Serving											
Beef											
Sirloin steak	2½	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64
Porterhouse, T-bone, rib steak	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Round steak	3½	.91	.94	.97	1.00	1.03	1.05	1.08	1.11	1.14	1.17
Chuck roast (bone in)	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Rib roast (boneless)	2½	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64
Rib roast (bone in)	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Rump, sirloin roast	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Ground beef	4	.80	.82	.85	.87	.90	.92	.95	.97	1.00	1.02
Short ribs	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Heart, liver, kidney	5	.64	.66	.68	.70	.72	.74	.76	.78	.80	.82
Frankfurters	4	.80	.82	.85	.87	.90	.92	.95	.97	1.00	1.02
Stew meat (boneless)	5	.64	.66	.68	.70	.72	.74	.76	.78	.80	.82

(Continued)

Lamb											
Loin, rib shoulder (chops)	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Breast, shank	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Shoulder roast	2½	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64
Leg of lamb	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Pork, fresh											
Center cut or rib (chops)	4	.80	.82	.85	.87	.90	.92	.95	.97	1.00	1.02
Loin or rib roast	2½	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64
Boston butt (bone in)	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Blade steak	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Spare ribs	1½	2.39	2.47	2.54	2.62	2.69	2.77	2.84	2.92	2.99	3.07
Pork cured											
Picnic (bone in)	2	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05
Ham, fully cooked											
Bone in	3½	.91	.94	.97	1.00	1.03	1.05	1.08	1.11	1.14	1.17
Boneless & canned	5	.64	.66	.68	.70	.72	.74	.76	.78	.80	.82
Shankless	4¼	.75	.77	.80	.82	.84	.87	.89	.92	.94	.96
Center slice	5	.64	.66	.68	.70	.72	.74	.76	.78	.80	.82
Poultry											
Broiler, or ready-to-cook											
chicken	1½	2.39	2.47	2.54	2.62	2.69	2.77	2.84	2.92	2.99	3.07
Legs, thighs	3	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.36
Breast	4	.80	.82	.85	.87	.90	.92	.95	.97	1.00	1.02
Turkey, ready to cook											
Under 12 lb	1	3.19	3.29	3.39	3.49	3.59	3.69	3.79	3.89	3.99	4.09
12 lb & over	1½	2.39	2.47	2.54	2.62	2.69	2.77	2.84	2.92	2.99	3.07
Price Per Pound											
	Servings per lb	4.19	4.29	4.39	4.49	4.59	4.69	4.79	4.89	4.99	5.09
Cost Per Serving											
Beef											
Sirloin steak	2½	1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00	2.04
Porterhouse, T-bone, rib steak	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Round steak	3½	1.20	1.23	1.25	1.28	1.31	1.34	1.37	1.40	1.42	1.45
Chuck roast (bone in)	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Rib roast (boneless)	2½	1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00	2.04
Rib roast (bone in)	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Rump, sirloin roast	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Ground beef	4	1.05	1.07	1.10	1.12	1.15	1.17	1.20	1.22	1.25	1.27
Short ribs	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Heart, liver, kidney	5	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02
Frankfurters	4	1.05	1.70	1.10	1.12	1.15	1.17	1.20	1.22	1.25	1.27
Stew meat (boneless)	5	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02
Lamb											
Loin, rib shoulder (chops)	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Breast, shank	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Shoulder roast	2½	1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00	2.04
Leg of lamb	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Pork, fresh											
Center cut or rib (chops)	4	1.05	1.07	1.10	1.12	1.15	1.17	1.20	1.22	1.25	1.27
Loin or rib roast	2½	1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00	2.04
Boston butt (bone in)	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Blade steak	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Spare ribs	1½	3.14	3.22	3.29	3.67	3.44	3.52	3.59	3.67	3.74	3.82
Pork cured											
Picnic (bone in)	2	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55
Ham, fully cooked											
Bone in	3½	1.20	1.23	1.25	1.28	1.31	1.34	1.37	1.40	1.42	1.45
Boneless & canned	5	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02

(Continued)

678 serving

Ham, fully cooked (cont)											
Shankless	4 $\frac{1}{4}$	.98	1.01	1.03	1.06	1.08	1.10	1.13	1.15	1.17	1.20
Center slice	5	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02
Poultry											
Broiler, or ready-to-cook chicken	1 $\frac{1}{3}$	3.14	3.22	3.29	3.67	3.44	3.52	3.59	3.67	3.74	3.82
Legs, thighs	3	1.40	1.43	1.46	1.50	1.53	1.56	1.60	1.63	1.66	1.70
Breast	4	1.05	1.07	1.10	1.12	1.15	1.17	1.20	1.22	1.25	1.27
Turkey, ready to cook											
Under 12 lb	1	4.19	4.29	4.39	4.49	4.59	4.69	4.79	4.89	4.99	5.09
12 lb & over	1 $\frac{1}{3}$	3.14	3.22	3.29	3.67	3.44	3.52	3.59	3.67	3.74	3.82
				</							

(Continued)

		Price Per Pound									
		6.19	6.29	6.39	6.49	6.59	6.69	6.79	6.89	6.99	7.09
Servings per lb		Cost Per Serving									
Beef											
Sirloin steak	2½	2.48	2.52	2.56	2.60	2.64	2.68	2.72	2.76	2.80	2.84
Porterhouse, T-bone, rib steak	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Round steak	3½	1.77	1.80	1.83	1.85	1.88	1.91	1.94	1.97	2.00	2.03
Chuck roast (bone in)	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Rib roast (boneless)	2½	2.48	2.52	2.56	2.60	2.64	2.68	2.72	2.76	2.80	2.84
Rib roast (bone in)	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Rump, sirloin roast	3	2.06	2.10	2.13	2.16	2.10	2.23	2.26	2.30	2.33	2.36
Ground beef	4	1.55	1.57	1.60	1.62	1.65	1.67	1.70	1.72	1.75	1.77
Short ribs	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Heart, liver, kidney	5	1.24	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.42
Frankfurters	4	1.55	1.57	1.60	1.62	1.65	1.67	1.70	1.72	1.75	1.77
Stew meat (boneless)	5	1.24	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.42
Lamb											
Loin, rib shoulder (chops)	3	2.06	2.10	2.13	2.16	2.20	2.23	2.26	2.30	2.33	2.36
Breast, shank	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Shoulder roast	2½	2.48	2.52	2.56	2.60	2.64	2.68	2.72	2.76	2.80	2.84
Leg of lamb	3	2.06	2.10	2.13	2.16	2.20	2.23	2.26	2.30	2.33	2.36
Pork, fresh											
Center cut or rib (chops)	4	1.55	1.57	1.60	1.62	1.65	1.67	1.70	1.72	1.75	1.77
Loin or rib roast	2½	2.48	2.52	2.56	2.60	2.64	2.58	2.72	2.76	2.80	2.84
Boston butt (bone in)	3	2.06	2.10	2.13	2.16	2.20	2.23	2.26	2.30	2.33	2.36
Blade steak	3	2.06	2.10	2.13	2.16	2.20	2.23	2.26	2.30	2.33	2.36
Spare ribs	1½	4.64	4.72	4.79	4.87	4.94	5.02	5.09	5.17	5.24	5.32
Pork cured											
Picnic (bone in)	2	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55
Ham, fully cooked											
Bone in	3½	1.77	1.80	1.83	1.85	1.88	1.91	1.94	1.97	2.00	2.03
Boneless & canned	5	1.24	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.42
Shankless	4¼	1.46	1.48	1.50	1.53	1.55	1.57	1.60	1.62	1.64	1.67
Center slice	5	1.24	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.42
Poultry											
Broiler, or ready-to-cook chicken	1½	4.64	4.72	4.79	4.87	4.94	5.02	5.09	5.17	5.24	5.32
Legs, thighs	3	2.06	2.10	2.13	2.16	2.20	2.23	2.26	2.30	2.33	2.36
Breast	4	1.55	1.57	1.60	1.62	1.65	1.67	1.70	1.72	1.75	1.77
Turkey, ready to cook											
Under 12 lb	1	6.19	6.29	6.39	6.49	6.59	6.69	6.79	6.89	6.99	7.09
12 lb & over	1½	4.64	4.72	4.79	4.87	4.94	5.02	5.09	5.17	5.24	5.32
		Price Per Pound									
		7.19	7.29	7.39	7.49	7.59	7.69	7.79	7.89	7.99	8.09
Servings per lb		Cost Per Serving									
Beef											
Sirloin steak	2½	2.88	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.20	3.24
Porterhouse, T-bone, rib steak	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
Round steak	3½	2.05	2.08	2.11	2.14	2.17	2.20	2.23	2.25	2.28	2.31
Chuck roast (bone in)	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
Rib roast (boneless)	2½	2.88	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.20	3.24
Rib roast (bone in)	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
Rump, sirloin roast	3	2.40	2.43	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Ground beef	4	1.80	1.82	1.85	1.87	1.90	1.92	1.95	1.97	2.00	2.02

(Continued)

680 serving

Beef (continued)											
Short ribs	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
Heart, liver, kidney	5	1.44	1.46	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62
Frankfurters	4	1.80	1.82	1.85	1.87	1.90	1.92	1.95	1.97	2.00	2.02
Stew meat (boneless)	5	1.44	1.46	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62
Lamb											
Loin, rib shoulder (chops)	3	2.40	2.43	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Breast, shank	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
shoulder roast	2½	2.88	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.20	3.24
Leg of lamb	3	2.40	2.45	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Pork, fresh											
Center cut or rib (chops)	4	1.80	1.82	1.85	1.87	1.90	1.92	1.95	1.97	2.00	2.02
Loin or rib roast	2½	2.88	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.20	3.24
Boston butt (bone in)	3	2.40	2.43	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Blade steak	3	2.40	2.42	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Spare ribs	1⅓	5.39	5.47	5.54	5.62	5.69	5.77	5.84	5.92	5.99	6.07
Pork cured											
Picnic (bone in)	2	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05
Ham, fully cooked											
Bone in	3½	2.05	2.08	2.11	2.14	2.17	2.20	2.23	2.25	2.28	2.31
Boneless & canned	5	1.44	1.46	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62
Shankless	4¼	1.69	1.72	1.74	1.76	1.79	1.81	1.83	1.86	1.88	1.90
Center slice	5	1.44	1.46	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62
Poultry											
Broiler, or ready-to-cook											
chicken	1⅓	5.39	5.47	5.54	5.62	5.69	5.77	5.84	5.92	5.99	6.07
Legs, thighs	3	2.40	2.43	2.46	2.50	2.53	2.56	2.60	2.63	2.66	2.70
Breast	4	1.80	1.82	1.85	1.87	1.90	1.92	1.95	1.97	2.00	2.02
Turkey, ready to cook											
Under 12 lb	1	9.19	7.29	7.39	7.49	7.59	7.69	6.79	7.89	7.99	8.09
12 lb & over	1⅓	5.39	5.47	5.54	5.62	5.69	5.77	5.84	5.92	5.99	6.07
		Price Per Pound									
	Servings	8.19	8.29	8.39	8.49	8.59	8.69	8.79	8.89	8.99	9.09
	per lb	Cost Per Serving									
Beef											
Sirloin steak	2½	3.28	3.32	3.36	3.40	3.44	3.48	3.52	3.56	3.60	3.64
Porterhouse, T-bone rib steak	2	4.10	4.15	4.20	4.25	4.30	3.36	4.40	4.45	4.50	4.55
Round steak	3½	2.34	2.37	2.40	2.43	2.45	2.48	2.51	2.54	2.57	2.60
Chuck roast (bone in)	2	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55
Rib roast (boneless)	2½	3.28	3.32	3.36	3.40	3.44	3.48	3.52	3.56	3.60	3.64
Rib roast (bone in)	2	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55
Rump, sirloin roast	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Ground beef	4	2.05	2.07	2.10	2.12	2.15	2.17	2.20	2.22	2.25	2.27
Short ribs	2	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55
Heart, liver, kidney	5	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82
Frankfurters	4	2.05	2.07	2.10	2.12	2.15	2.17	2.20	2.22	2.25	2.27
Stew meat (boneless)	5	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82
Lamb											
Loin, rib shoulder (chops)	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Breast, shank	2	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55
Shoulder roast	2½	3.28	3.32	3.36	3.40	3.44	3.48	3.52	3.56	3.60	3.64
Leg of lamb	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Pork, fresh											
Center cut or rib (chops)	4	2.05	2.07	2.10	2.12	2.15	2.17	2.20	2.22	2.25	2.27
Loin or rib roast	2½	3.28	3.32	3.36	3.40	3.44	3.48	3.52	3.56	3.60	3.64
Boston butt (bone in)	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Blade steak	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Spare ribs	1⅓	6.14	6.22	6.29	6.37	6.44	6.52	6.59	6.67	6.74	6.82

(Continued)

Pork cured											
Picnic (bone in)	2	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55
Ham, fully cooked											
Bone in	3½	2.54	2.37	2.40	2.43	2.45	2.48	2.51	2.54	2.57	2.60
Boneless & canned	5	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82
Shankless	4¼	1.93	1.95	1.97	2.00	2.02	2.04	2.07	2.09	2.12	2.14
Center slice	5	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82
Poultry											
Broiler, or ready-to-cook											
chicken	1½	6.14	6.22	6.29	6.37	6.44	6.52	6.59	6.67	6.74	6.82
Legs, thighs	3	2.73	2.76	2.80	2.83	2.86	2.90	2.93	2.96	3.00	3.03
Breast	4	2.05	2.07	2.10	2.12	2.15	2.17	2.20	2.22	2.25	2.27
Turkey, ready to cook											
Under 12 lb	1	8.19	8.29	8.39	8.49	8.59	8.69	8.79	8.89	8.99	9.09
12 lb & over	1½	6.14	6.22	6.29	6.37	6.44	6.52	6.59	6.67	6.74	6.82
<div> <div>Price Per Pound</div> <div> <div>Servings</div> <div>per lb</div> </div> <div> <div>9.19</div> <div>9.29</div> <div>9.39</div> <div>9.49</div> <div>9.59</div> <div>9.69</div> <div>9.79</div> <div>9.89</div> <div>9.99</div> <div>10.09</div> </div> </div>											
Cost Per Serving											
Beef											
Sirloin steak	2½	3.68	3.72	3.76	3.80	3.84	3.88	3.92	3.96	4.00	4.04
Porterhouse, T-bone rib steak	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Round steak	3½	2.63	2.65	2.68	2.71	2.74	2.77	2.80	2.83	2.85	2.88
Chuck roast (bone in)	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Rib roast (boneless)	2½	3.68	3.72	3.76	3.80	3.84	3.88	3.92	3.96	4.00	4.04
Rib roast (bone in)	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Rump, sirloin roast	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.30	3.33	3.36
Ground beef	4	2.30	2.32	2.35	2.37	2.40	2.42	2.45	2.47	2.50	2.52
Short ribs	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Heart, liver, kidney	5	1.84	1.86	1.88	1.90	1.92	1.94	1.96	1.98	2.00	2.02
Frankfurters	4	2.30	2.32	2.35	2.37	2.40	2.42	2.45	2.47	2.50	2.52
Stew meat (boneless)	5	1.84	1.86	1.88	1.90	1.92	1.94	1.96	1.98	2.00	2.02
Lamb											
Loin, rib shoulder (chops)	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.30	3.33	3.36
Breast, shank	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Shoulder roast	2½	3.68	3.72	3.76	3.80	3.84	3.88	3.92	3.96	4.00	4.04
Leg of lamb	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.30	3.33	3.36
Pork, fresh											
Center cut or rib (chops)	4	2.30	2.32	2.35	2.37	2.40	2.42	2.45	2.47	2.50	2.52
Loin or rib roast	2½	3.68	3.72	3.76	3.80	3.84	3.88	3.92	3.96	4.00	4.04
Boston butt (bone in)	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.30	3.33	3.36
Blade steak	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.33	3.30	3.36
Spare ribs	1½	6.89	6.97	7.04	7.12	7.19	7.27	7.34	7.42	7.49	7.57
Pork cured											
Picnic (bone in)	2	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05
Ham, fully cooked											
Bone in	3½	2.63	2.65	2.68	2.71	2.74	2.77	2.80	2.83	2.85	2.88
Boneless & canned	5	1.84	1.86	1.88	1.90	1.92	1.94	1.96	1.98	2.00	2.02
Shankless	4¼	2.16	2.19	2.21	2.23	2.26	2.28	2.30	2.33	2.35	2.37
Center slice	5	1.84	1.86	1.88	1.90	1.92	1.94	1.96	1.98	2.00	2.02
Poultry											
Broiler, or ready-to-cook											
chicken	1½	6.89	6.97	7.04	7.12	7.19	7.27	7.34	7.42	7.49	7.57
Legs, thighs	3	3.06	3.10	3.13	3.16	3.20	3.23	3.26	3.30	3.33	3.36
Breast	4	2.30	2.32	2.35	2.37	2.40	2.42	2.45	2.47	2.50	2.52
Turkey, ready to cook											
Under 12 lb	1	9.19	9.29	9.39	9.49	9.59	9.69	9.79	7.89	9.99	10.09
12 lb & over	1½	6.89	6.97	7.04	7.12	7.19	7.27	7.34	7.42	7.49	7.59

sesame (**bene**; **henne seed**; **benniseed**; **sesamo**; **sim-sim**, *Sesamum indicum* L.; *S. orientale*) An annual herb; a tropical or subtropical plant that produces a small, oval, flat, white to black (sometimes orange) seed; sweet, nutty flavor when toasted, similar to toasted almonds

Sold:

Ground

Hulled (most common)—small, pearly-white, glossy seed, used as toppings and on rolls

Toasted

Unhulled—natural, used in bread

Whole

Toasting heightens mild, nutty odor and taste; cook in ungreased skillet until golden or 300°F oven for 10 minutes

Sources: Guatemala, Honduras, Mexico, Nicaragua

Seed may be used as food or the oil extracted (45–55%); the cake left after extraction is used as a protein-rich livestock feed;

46 pounds sesame seed = 1 bushel

Composition	Decorticated	Dry seed composition
Moisture (%)	4–5	5
Protein (%)	26–27	18–19
Fat (%)	54.5–55	49–55
Carbohydrate (%)	9–10	17–22
Fiber (%)	2.5–3.5	
Ash (%)	4–5	5

Storage of seed: cool, dark, dry place

See Part 2: Oils and Fats Composition; Protein Factors; Pulses, Nuts and Seeds Composition; Seed, Chemical Composition; Unsaponifiable Matter

sesame meal Sesame seed after oil extraction of dehulled seed

Composition: dry matter 93%; protein 43–45%; oil 7–9%; carbohydrate 23%; fiber 6%; minerals 4–11% Its protein is high in methionine and cystine, but deficient in lysine

sesame oil (**benne oil**; **gingli oil**) An oil obtained from the seed of the sesame plant (*Sesamum indicum*)

Properties: iodine number 103–112; melting point –6°C; refractive index (15.5°C) 1.474–1.476; saponification number 188–193; sp. gr. (25°C) 0.919

Composition: arachidic 1%; linoleic 40–42%; oleic 38–45%; palmitic 9%; stearic 4%

See Part 2: Fats and Oils, Composition; Fats and Oils, Physical and Chemical Properties; Fats and Oils, Characteristics; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil or Fat, Characteristics; Oil, Triglyceride Mole Percent Composition; Re-

fractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Tocopherols

sesame seed (**bene seed**; **henne seed**; *Sesamum indicum* L.) An annual, white (some varieties are dark red or brown) or black seed ($\frac{1}{8}$ inch in length) used in flavoring food and as an oil crop. Seeds are usually hulled. Nutlike flavor when toasted

Storage: maximum of 10% moisture

sesbane A plant having a toxic principle

See Part 2: Poisonous Plants

sesbania See Part 2: Seed, Germination

set When nonfluid, starch paste becomes stiff without gel formation

set-aside A proportion of crop land diverted to soil conserving uses

set point See **congealing point**

setting out Mechanical extraction of surplus water from leather after tanning

setting the hair Occurs when hog carcasses are overcooked and the hair becomes extremely hard to remove

settle To conceive, after being bred

settlement price The average price on the close of the day or a price determined to be in line with actual closing values

setubal A white or amber, dessert wine made from muscatel grapes

seve Orange-colored and -flavored, herb liqueur based on cognac

seven-day beer A viscous, brown-colored, slightly bitter, mildly alcoholic beer made by added malt to maize porridge

Seventh-Day Adventists See **vegetarian, lacto**

Seville orange See **sour orange**

Sevin Trademark for a toxic, carboxyl insecticide

See Part 2: Insect Control

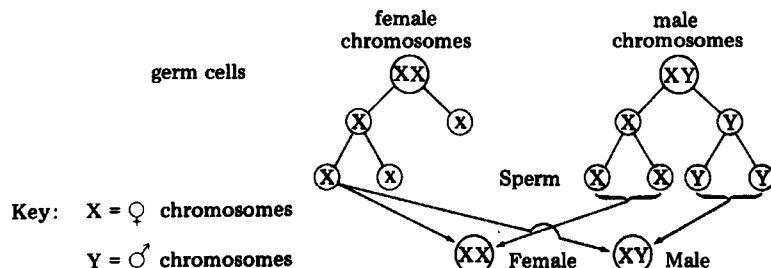
sevruga (*Acipenser stellatus*) A Russian food fish

sewa golden, hard, pressed cheese made from sheep's milk

sewage Municipal waste See also **sludge**

See Part 2: Fertilizer Materials; Microorganism, Culture Media, Water and Sewage, Standard Methods; Wastes, Agricultural and Industrial

sex The state of a plant (or part of a plant) or animal that is expressed in the production of ova in the female or sperm in the male



Type of sex in plants:

Diocious—male and female are different plants

Diclinous—male and female flowers on same plant
Hermaphroditic—male and female elements in same flower

□ or ♂ symbol for male; ○ or ♀ symbol for female

SF broth See Part 2: Microbiological Media

SFP agar A medium used to grow *Clostridium perfringens*

See Part 2: Microorganism, Media

shack To feed upon stubble or fallen grain after harvest

shad (buck, roe; king of herring; white roe)

Alewife (*Alosa pseudoharengus*)—Atlantic, freshwater; North America

Allis, Alice (*A. alosa*)—European

American (*A. sapidissima*)—Atlantic, Pacific, freshwater

Blueback herring (*A. aestivalis*)—Atlantic, freshwater; North America

Gizzard (*Dorosoma cepedianum*)—Atlantic, freshwater; North America

Hickory (*A. mediocris*)—Atlantic; North America

Threadfin (*Dorosoma petenense*)—Atlantic, freshwater; North America

Twait (*A. fallax fallax*; *A. finta*; *Clupea finta*)—France

Twait (*A. menhaden*)—U.S.

A fat, very bony fish similar to a herring but with a deeper body. Saltwater fish of the herring family and found along the Atlantic and Pacific coasts and in U.S. coastal rivers; 3–4 pounds; may be obtained fresh, smoked, and canned; roe may be fresh or canned

Type:

Buck—male shad

Roe—female shad

See Part 2: Fish and Shellfish Composition

shadberry See service berry

shad bush (service berry; Amelanchier canadensis) A small tree, whose red fruit is used for pies and canned See **june berry**

shaddock See grapefruit; pomelo

See Part 2: Essential Oils

shad-waiter Whitefish See **whitefish**

shagbark A native hickory-type tree that produces sweet tasting nuts that are harder than pecans

shaggy parasol (Lepiota rhacodes) A large (3–7 inch cap) edible fungus with yellow-brown scales on the cap

shake

Composition	Thick Chocolate	Thick Vanilla
Moisture (%)	72.2	74.4
Protein (%)	3.0	3.9
Fat (%)	2.7	3.0
Carbohydrate (%)	21.1	17.7
Fiber (%)	0.2	0.06
Ash (%)	0.9	0.9

Sodium 266 mg per shake (308 grams)

"shall" Requirements are mandatory

shallot (often incorrectly applied to scallion; Allium cepa ascalonicum) A perennial, small onion

of the multiplier type. A vegetable whose bulb (purplish white bulb that resemble mild garlic) contains several cloves or sections and is used as food; a variety of onion; mild and used for flavoring and as a pickle. Grown in clusters. Can be used like green onions or as a dry bulb (1 inch; very little swelling at base)

Types:

Red (common)

Yellow

Variety:

Dutch Yellow—10–20 side shoots; good storage

Giant Red—10–20 side shoots; used uncooked; good storage

Use fresh and freeze dried (1–3% moisture). They may be diced ($\frac{1}{4} \times \frac{1}{4}$ or $\frac{1}{8} \times \frac{1}{8}$ inch) or finely ground (100%—No. 7 U.S. screen) or powder (100%—No. 40 U.S. screen). Freeze dried has a fresh weight replacement value of 1:8 to 1:13

Composition (raw bulb): Moisture 80%; protein 2–3%; fat 0.1%; carbohydrate 17%; ash 1%

See **onion, green**

See Part 2: Planting density

shallot, freeze dried

Forms: dice (3 inches), granules, powder See **shallot**

shamit A sorghum beer flavored with spices

shampansky A white, sparkling wine

shamsey A pocket, flat bread

shandygaff A mixture of ale or beer with ginger ale or ginger beer; beer and ginger beer

shanezhki A small size bread that sometimes contains dried fruit

Shanghai White white pigs that have turned-up snouts and short semierect ears and are from the Shanghai area; obtained by crossing Yorkshire with Fungcheng and Maishan breeds

shankalish A hard, dry, grating cheese

shank (fore) bone Shin; the leg between the knee and ankle; radius-ulna

See Part 2: Beef Chart; Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Beef Wholesale Cuts; Braising Meat; Braising Time; Cooking in Liquid, Time; Lamb Cuts; Lamb, Wholesale Cuts; Meat, Servings Per Pound; Pork Wholesale Cuts; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Wholesale Cuts

shank (hind) bone Tibia-fibula

shank knuckle bone The inferior extremity of the femur

See Part 2: Beef Cuts

Shantung Cattle Yellow-brown, humped (bulls), dual purpose (beef and draft) cattle found in Shantung (Shandong, northeast China) Province, China

shao chiu A spirit distilled from sorghum

shaohsing A deep-colored, rice with some wheat or millet wine

sharab Wine

shark

Basking—*Cetorhinus maximus*

Great blue—*Prionace glauca*

Greenland—*Somniosus microcephalus*

Hammerhead (smooth)—*Sphyrna zygaena*

Salmon—*Lamna nasus*

Silver—*Chimaera monstrosa*

Soupin—*Galeorhinus zyopterus*

Tiger—*Galeocerdo cuvieri*

White—man eater

Commercial species:

Angel

Leopard

Mako

Sand

Soupin

Thresher

Tiger

Food fish with flakey firm, light-flavored meat

1 inch thick steak = 8 ounces

shark fin Sun-dried and cured shark fin. Used for soup

shark liver oil Oil obtained from the basking shark (*Cetorhinus maximus* or *Selache maxima*); often used as a dietary supplement; high in vitamins A and D

See Part 2: Unsaponifiable Matter; Unsaturated Fatty Acids

shark oil See Part 2: Iodine and Saponification Values; Vitamin A, Fish; Vitamin D, Fish

sharkskin See **citrus rust mite**

sharp An intense or painful odor or flavor

sharp cheese See **cured cheese**

sharpening stone See **novaculite**

sharp-freezing Reducing a portion of the interior food temperature to 10°F or less in 5 hours or less; room should be -10°F or lower (often -40°F); tolerance of -10°F for a reasonable length of time after entry of fresh food

sharp seam The sharp edge at the top inside of a can's double seam due to metal forced over the seaming chuck

sharqui Beef jerky

shashlik (shashlyk) Cubes of seasoned meat, onions, tomatoes, and vegetables cooked on a skewer

shavegrass (bottle bush; horsetail; pewtergrass) An herb that can be used as a tea

shaw A stem and leaves

sheal To remove pod, shell, or husk

shea oil See Part 2: Fats and Oils, Characteristics; Iodine and Saponification Values; Refractive Indices, Fats and Oils

shear 1) A lateral stress applied to one of the faces of a body 2) To clip or cut (of hair or wool) 3) To cut with scissors-like (opposed cutting edges) action

shearer An ovine animal (sheep) any age to be sheared before slaughter

shearing tup Entire male sheep after first shearing

sheatfish (*Siluris glanis*) A food fish

sheath blight A rice disease caused by a soil-borne fungus (*Corticium sasakii*; *Rhizoctonia solani*) causing green-gray spots on the sheath

Control: plant resistant varieties; nitrogen timing; grass control; crop rotation

sheath rot A rice disease caused by a fungus (*Sarocladium oryzae*). There are no known control measures

sheath spot A fungus (*Rhizoctonia oryzae*) disease of rice that may be controlled by planting resistant varieties, timing of nitrogen, and crop rotation

shechitah Ritual slaughter

shedder A crab

sheen Luster; glistening; shine

sheep (*Ovis aries*) Ovine ruminant animals of all ages and sex; in common practice one year or older in age; a mature sheep is 3 years or older. *Ovis laticauda*, broad tailed; *Ovis montana*, bighorn. Dressing percentage, 48%. Grown for meat and wool production

Age at puberty—4–10 months

Duration of estrus—24–48 hours

Female—ewe

Frequency of ovulation—16–17 days

Gestation period—146 days

Male—ram

Millions of sperm per milliliter semen—2,000

Number of females served by one male—15–50

Number of offspring—1–2 per gestation

Semen volume per ejaculate—1 milliliter

Time of ovulation—near end of estrus

Most are seasonal in reproductive habits resulting in a lamb crop in early spring

See Part 2: Bone Age; Gestation Periods; Milk and Cheese Composition; Milk, Species; Muscle and Body Weight; Reproductive Cycle; Sheep Breeds; Sheep Market Classes and Grades; Teeth Eruption

sheepberry See **black haw**

sheep casing See **casing**

sheep milk

Composition (Whole, fluid): moisture 80.7%; protein 6.0%; fat 7.0%; carbohydrate 5.4%; ash 1.0%

sheepshead (gaspergou croaker; white perch) Name used for different species of food fish; an 8–10-pound food fish of the porgy family; in western U.S. a large freshwater fish; a light meat, light to moderate flavor, fin fish.

California (*Pimelometopon pulchrum*)—Pacific
Freshwater drum, white, or silver perch (*Aplodinotus grunniens*)—freshwater; North America
Sheepshead (*Archosargus probatocephalus*)—Atlantic, N. America

shehitah Jewish method of slaughter

shelf curing Applying dry cure to meat and placing it so the juices will drain from the product while curing

shelf-life The storage time of a canned or packaged food product; it is greatly lengthened by use of antioxidants and other preservatives. Period within which quality and safety are maintained; code date often indicates this time span

shell A hard fibrous or calcareous plant or animal part covering; e.g., egg, nut, oyster 1) The hard external coating of a nut, composed chiefly of cellulose 2) The body covering of lobsters, clams, oysters, etc., composed largely of calcium carbonate See also **shellfish** 3) The hard, friable coating of avian eggs, composed of lime and calcium carbonate 4) A pastry container for creamed meats, fish, or custard fillings; a patty shell 5) Emaciated cattle 6) An electron orbit of an atom, designated by letters K, L, M, etc. 7) Pasta in the shape of a shell; shell-shaped macaroni-

like product:

- Large shells are 1½ inch
- Medium shells are 1 inch
- Tiny shells are ½ inch

See Part 2: Egg Structure

shellbark A native hickory-type tree that produces sweet tasting nuts that are harder than pecans

shellfish An invertebrate covered with a shell; divided into two major groups which are mollusks and crustaceans; hard outer covering composed chiefly of calcium carbonate

Types:

Crustaceans—barnacles, crabs, crawfish, crayfish, hermit crabs, lobsters, prawns, scampi, shrimps, spider crabs

Echinoderms—sea slugs, sea urchins

Mollusks—abalones, clams, cockles, limpets, mussels, oysters, periwinkles, razor shells, scallops, sea dates, sea truffles, whelks

Yield: can be as low as 20–40%

1 cup cooked shellfish meat = 8 ounces

Storage: refrigerate in ice for a maximum of 2 days

See Part 2: Animal Foods, Composition; Fish and Shellfish Composition; Fish, Storage; Frozen Food Storage; Plant and Animal Poisoning; Storage Times

shelling Removing corn kernels from the cob; removing peas from pods or shells from nuts See also **shuck**

shell loin Beef, short loin, without the tenderloin

sheneena Buttermilk

shepherd's pie (cottage pie) A dish of ground meat, onions, seasoning, and a rich gravy, covered with crusty mashed potato and baked; baked mashed potatoes filled with slice meat

shepherd's purse See **corn salad**

sherbet (sorbet) A frozen mixture (tart dessert) containing milk but not as much fat as ice cream and unlike ices they may contain milk or egg yolks. They are sweeter (approximately 2 times the quantity of sugar as in ice cream) and softer than ice cream but not as rich. A sweetened, flavored water ice; sweetened, diluted fruit juice. More often, a frozen dessert made from sugar, milk solids, stabilizer, food acid, flavoring, and water

Types:

Fruit—contains fruit or fruit juice

Nonfruit—contains spices, infusion of coffee or tea, chocolate, candy, liqueurs, wine, or other natural or artificial flavors

Freezing point –4 to –5°C

1 quart = 4 cups

1 cup = 195 grams (6.8 ounces)

Composition: moisture 66–67%; protein 1–1.2%; fat 1.2–2%; carbohydrate 30–31%; fiber trace; ash 0.1–0.4%; milk fat 1–2%; milk solids 2–5%; sugar 6–8 tsp/0.5 cup; 135 calories per ½ cup

See Part 2: Calories, Daily Recommendations; Creams, Butter and Frozen Desserts; Dairy Terms; Frozen Food Storage, Stabilizers, Thickeners

Sherman bourquin unit The quantity of daily riboflavin necessary to obtain an average weekly gain of 3 grams per rat

Sherman, Henry Clapso A nutrition research worker

Sherman–Munsell unit The quantity of daily vitamin A necessary to obtain an average weekly gain of 3 grams per rat

Sherman unit 0.5–0.6 milligrams of ascorbic acid

shermute Beef jerky

sheroo A rice beer

sherry A wine that is full-bodied, fragrant, fortified, and blended (15.5–20% alcohol by volume); it is made from the juice of white grapes and sold in three grades: pale dry, regular, and cream, the last being the sweetest. An amber-colored, fortified alcoholic wine with a nutlike flavor. Ranges from dry to sweet and from light golden to dark brown, e.g., palomino

Types:

Fino—clean, clear to pale in color and dry, 15½% alcohol by volume

Oloroso—early maturing; richer and fuller in taste; 17½% alcohol by volume

Palo cortado—blend

Raya—coarse; rich

sherry cobbler A cold beverage made of sherry, lemon juice, etc.

sherry glass

1 glass = 2 ounces

sher-woo Food

shield Heavy skin on the shoulder of some boars.

See Part 2: Butter Grade; Cheese Shield; Cottage Cheese Shield; Egg Quality and Size Label; Lamb Quality Guide; Lamb Yield Guide

shifting cultivation Periodic abandonment of cropped lands to allow the regrowth of natural vegetation, regeneration of soil fertility, and then reutilization for crop land

shigellosis Food-borne bacterial disease (food poisoning) caused by *Shigella boydii*, *S. Flexnerii*, *S. sonnei* and *S. dysenteriae*. An organism destroyed by pasteurization

See Part 2: Illness from Food; Infectious Agents; Infectious Diseases, Food-Borne; Intestinal Microorganisms in Triple-Sugar Agar; Microorganism, Media; Microorganism Reactions on Differential Tube Media

shih Strong-flavored, salted, dark brown, soybeans in dark brown paste that is dried and has a long shelf-life

shih-yu A soy sauce made with meat

shiitake A black, dried mushroom that is soaked in water before use

shikar Hunting

shima See **nshima**

shimshiki shoyu A soy sauce

shin Foreleg from knee to ankle; similar to shank See **shank (fore) bone**

shin-kiuh A starter culture used to inoculate fermented foods

shinsu miso A flavorful, light brown, high salt, paste made from soybeans, often mixed with cereals

shiokara A fermented, yellow-brown, salty fish (with guts and liver) paste condiment

shiozuke Pickled vegetable

ship biscuit Hard bread that has good keeping qualities. See **hardtack**

686 shipper-style hog carcass

shipper-style hog carcass A carcass that is not split, and the head and leaf fat is left with the carcass

shipping fever A high fever and general depression in cattle after shipping; to reduce this condition, avoid overexposure during shipping; there is also a preventive vaccination

shipping release A form used by the buyer to specify shipping instructions of items purchased for delivery at an unstated future date or to an unstated destination

shirada (*Wallago attu*) An Indian, food fish

shirmal A pocket, flat bread

shiro shoyu A yellow-brown, soy sauce

shirr To cook eggs in individual baking dishes with crumbs and cream; to cook in a shallow casserole, e.g., eggs

shirr, to Cook in a shallow casserole

shish kebab Meat (often lamb) and vegetables broiled and served on a skewer. Meat, often marinated before cooking

shiu See **koji**

shivovitz A liqueur made from the shiva plum

sho Soy sauce

shoat (shote) A young hog, between 100 and 150 pounds that will be sent to market

shochet A cutter (inspector) who manually examines thoracic organs for kosher foods; one who slaughters animals to be eaten by Jews

shochu A rice-based, arrack beverage

shoddy Reclaimed wool; slow-releasing nitrogen fertilizer

shoestring (julienne) Long thin strips of french-fried potatoes See **bean, green**

shoestring root rot See **armillaria root rot**

shohet An expert in slaughter according to Jewish code, which requires quick and thorough bleeding of the carcass

shonti annam A fermented rice product. A sweet, slightly alcoholic, glutinous rice

shood Chaff

shoo-fly pie A pastry shell containing a filling flavored primarily with brown sugar and molasses

shoot 1) Current season's growth 2) Small, young, weaned pigs See **sprout**

short 1) Easily, broken, crisp, or friable pastry 2) The market position of a futures contract seller whose sale obligates him or her to deliver the commodity unless they liquidate the contract by an offsetting purchase

shortbread A sweet biscuitlike cake; cracker; a rich (butter) cookie

shortbread cookie

Composition: sodium 116 mg/4 cookies (30 grams)

shortcake A cake or biscuit made with a substantial proportion of shortening; served with sweetened fruit (strawberries, peaches, etc.) and cream

Ingredients: flour (3 cups), liquid ($\frac{3}{4}$ – $1\frac{1}{2}$ cups), eggs ($1\frac{1}{2}$ –5 eggs), sugar (1–2 cups), shortening ($\frac{1}{4}$ –1 cup), salt, and leavening agent

short circuit A no-resistance connection

shortening 1) A fatty substance (lard, butter, hydrogenated oil) used in baked products to give a light, crisp texture. This results from formation by the shortening agent of a lubricant layer between the particles of flour, giving the cooked product a less resistant, flaky structure, which makes a mixture "short" or tender.

2 cups = 1 pound

1 cups = 8 ounces

$\frac{7}{8}$ cup, shortening = 1 cup, butter for shortening

1 tbsp = $\frac{1}{2}$ oz

1 tsp = $\frac{1}{8}$ oz

Composition (vegetable shortening): saturated fatty acids 23%; oleic 23%; linoleic 6–23%

2) Alteration for altitude see **altitude** 3) Contraction or decrease in size, e.g., cold shortening in meat

See Part 2: Fats and Oils, Composition; Oils and Fats Composition

shortening value (shortness) The force required to break a standard crust or cracker; the less the force, the higher the shortening value and the flakier and lighter the pastry

short-fed cattle Cattle placed in a feedlot at 750–850 pounds and fed for 60–130 days; below choice finish

Shorthorn A breed of beef cattle that may be red, roan, white, or red and white; horns curve downward and forward. Origin, northeast England; imported to America by Gough and Miller of Virginia

Color determination (x = gene for white; y = gene for red):

Red (yy) × red (yy) → red offspring (yy)

White (xx) × white (xx) → white offspring (xx)

Roan (xy) × roan (xy) → 25% red (yy) + 50% roan (xy) + 25% white (xx)

White cattle (xx) × red cattle (yy) → roan offspring (xy)

roan cattle (xy) × red cattle (yy) → $\frac{1}{2}$ roan offspring (xy) + $\frac{1}{2}$ red offspring

There is also an American Milking Shorthorn, which is the dairy branch of this breed

See also **Polled Shorthorn**; **Single Standard Polled Durham**; **Double Standard Polled Shorthorn**.

See Part 2: Beef and Dual-Purpose Cattle; Gestation Periods; Milk Breeds, Composition

short loin The front area of the loin extending from the flat edge of the hip bone to the last rib; it contains the porterhouse, T-bone, and club steaks (back to front)

See Part 2: Beef Cuts; Beef Cuts and Uses

shortmeter An instrument used to measure resistance to breaking or crushing

shortness See **shortening value**

shortnin' bread A biscuit type bread made from all-purpose flour, brown sugar, and butter

short order A small meal in a quick-service restaurant

short plate A cut of beef.

See Part 2: Beef, Boneless Cuts; Beef Retail Yield; Beef Rib Nomenclature; Beef Wholesale Cuts

short ribs A cut of beef made from 2- to 3-in. strips removed across the ribs of the plate

See Part 2: Beef Cuts; Beef Cuts and Uses; Beef Retail Yield; Braising Meat; Braising Time; Portion Size

shorts Fine particles of bran, flour, germ, or offal from the tail of the mill during commercial flour milling

See Part 2: Casings, Hog Bungs; Wheat and Flour Composition; Wheat Products Composition

short wool See **fine-wool sheep**

shote See **shoot**

shot-hole A fungus on apricot trees that cause defoliation of trees and malformation of fruit

shot-hole borers (*Scolytus rugulosus*) Many species of insects in which the larvae or grubs are white, yellowish white, or brown and are 1-1½ inches long. Adults are beetles or moths that vary in size and color. Hosts are apple, peach, pear, plum, cherry, and other fruit. The larvae feed (small holes eaten through bark) on growing tissues of trunks, limbs, and roots and trees weaken and die
Control: keep trees healthy; insecticides

shotō sake A filtered, mature, alcoholic wine made from sugar cane juice

shotsuru Fish sauce made from sandfish (*Astrosopus*), malted rice, and koji

"should" Recommended or advisory procedures or equipment

shoulder 1) The forearm area of a pork carcass (in pork, vertebrae and ribs removed); about 16% of hog carcasses (head and leaf fat on) See also **New York style shoulder** In beef or lamb carcass it is usually referred to as chuck and contains the first five ribs 2) The part of a glass container where maximum diameter decreases to join the neck 3) The part of a cap between the panel and the skirt

See Part 2: Bone in Retail Cuts; Braising Time; Cooking in Liquid, Time; Lamb Cuts; Lamb Cuts and Uses; Lamb Roasting; Lamb, Wholesale Cuts; Lamb Yield; Meat and Meat Products Composition; Meat Composition; Pork Cookery; Pork, Cooking; Pork, Cooking Method; Pork Cooking Yield; Pork Cuts; Pork Shoulder; Pork Yield; Roasting Meat; Roasting, Time and Temperature; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting

shoulder arm roast A beef roast made from muscles on the fore shank in front of the arm bone

shoulder clod See **clear cut shoulder**

shoulder roll See Part 2: Pork Cookery

shoulder vein Junction of the neck and shoulder

shoum A rice beer

shovel-nose sturgeon (*Scaphirhynchus platyrhynchus*) A food fish

showbread Bread placed in a Jewish sanctuary

showyang A white-headed sheep grown for wool and mutton and found in Shansi (Shanxi, northeast China) province

shoyu A variable-flavored sauce made from soybeans, wheat, yeast, and salt; soy sauce See **ketjap**
See Part 2: Fungi Food Products

shred To cut into long narrow strips, e.g., cabbage

shredded coconut Made by shredding ripe coconut meat, mixing with salt and sugar, and partially drying

shredded wheat A ready-to-eat cereal. A breakfast cereal prepared from cooked, dried, and tempered whole wheat grain; the grain is passed between grooved rollers; the resulting strands are pinched into bisuits which are then baked.

1 cup (spoon size) = 1.5 ounce

1 biscuit = 25 grams

Composition: moisture 7%; protein 10%; fat 2-4%; carbohydrate 77-81%; fiber 12%; sugar 0.6%

shrikhand Yogurt with honey or sugar

shrimp (prawns in England) A lean, marine crustacean; a shellfish; crustaceans in which the meat is creamy white, firm, and has a distinctive flavor.

Brown: (*Crangon vulgaris*)—gray spotted brown when raw; pink spotted brown when cooked

Pink: (*Leandersquilla*)—red gray when raw; bright pink when cooked

General types:

Alaska pink—Alaska

California—Maine and worldwide imports

White, brown, pink prawn—South Atlantic, Gulf of Mexico

Common name

Bay

Blue

Brown

California bay

Northern

Pink

Rock

White (prawn)

Type:

Bay

Crangon franciscorum, *C. nigricanda*, *C. nigromaculata*—Pacific; North America

Blue (*Penaeus stylirostris*)—Pacific; Central America

Brazilian (*Penaeus brasiliensis*)—Atlantic, Gulf; America

Brown

Crangon crangon, *C. vulgaris*—Europe, Africa

Penaeus aztecus—southwest Atlantic

Penaeus californiensis—east Pacific

Penaeus canaliculatus—India

Common (*Crangon crangon*)—Europe

Coon-Stripe (*Pandalus hypsinotus*)—north Pacific

Grass (*Palaemonetes vulgaris*)—west Atlantic

Humpy (*Pandalus goniurus*)—north Pacific

Pink

Pandalus montagui—Europe

Pandalus jordani—east Pacific

Penaeus duorarum—south Atlantic

Penaeus brevisrostris—southeast Pacific

Royal Red (*Hymenopenaeus robustus*)—west Atlantic

Sand (*Crangon septemspinus*) northwest Atlantic

Side-Stripe, Giant red (*Pandalus dispar*)—northeast Pacific

Spot (*Pandalus platyceros*)—northeast Pacific

688 shrimp (prawns in England)

White

Penaeus setiferus—northwest Atlantic

Penaeus schmitti—southwest Atlantic

Penaeus occidentalis—southeast Pacific

Available fresh, frozen headless, peeled and deveined, cooked, battered and breaded, and canned; 50% edible.

Size (Note: Other size systems are also used):

Jumbo = less than 25 per pound

Large = 25–30 per pound

Large medium = 28–30 per pound

Medium = 30–35 per pound

Small = 35 or more per pound

	Yield (%)
As purchased	
Headless	50
Peeled and cleaned	60

Breaded: 50% flesh content

Amount needed per serving:

Breaded—3.5 ounces

Canned—3 ounces

Cooked, peeled, cleaned—3 ounces

In shells—6 large or 6 ounces

Shelled—4 ounces

Size of raw headless:

Extra colossal—less than 10 per pound

Colossal—10–15 per pound

Extra jumbo—16–20 per pound

Jumbo

21–25 per pound—less than 3.5 regular per ounce, drained,

14–16 per pound in shell—less than 3.8 cleaned (deveined) per ounce, drained

Extra large—26–30 per pound; less than 3.5 regular per ounce, drained; less than 3.8 cleaned (deveined) per ounce, drained

Large—31–35 per pound; 3.5 or more per ounce, drained; 3.8 or more cleaned (deveined) per ounce drained; 8 ounce (13–15 shrimp) per serving

Medium large—36–40 per pound

Medium—40–50 per pound; 5 or more per ounce, drained; 5.4 or more cleaned (deveined) per ounce, drained; 8 ounces (20–25 shrimp) per serving

Small—50–60 per pound; 9 or more per ounce, drained; 9.8 or more cleaned (deveined) per ounce, drained; 8 ounce (35–40 shrimp) per serving

Extra small—61–70 per pound

Tiny or cocktail—more than 70 per pound; 17 or more per ounce, drained; 18.4 or more cleaned (deveined) per ounce, drained

1 pound, cooked, shelled = 3 cups, finely chopped

1 cup, dry packed and drained = 22 large
= 76 small
= 4.5 ounces

1 cup, canned = 130 grams (4.6 ounces)

12 large, raw shrimp in shell

= 7–8 ounces raw shelled shrimp

= 4½–5 ounces, canned shrimp

= 1 cup, cooked, shelled, shrimp.

Canned style:

Can—less expensive; cooked

Dry—no liquid; cooked

Glass—better grade; hand packed; cooked

Wet—in brine; cooked

Small and medium shrimp more tender than larger shrimp

Composition (raw): moisture 78%; protein 18%; fat 0.8–1.6%; carbohydrate 2%; ash 1%; pH 6.8–7.0; 12–17% fat absorption during frying; sodium 137 mg/3 oz raw, 159 mg/3 oz fried, 1,955 mg/3 oz canned; 128 mg cholesterol/3 oz canned

Composition (shrimp paste canned): moisture 61%; protein 20%; fat 9%; carbohydrate 2%; ash 7%

See Part 2: Cholesterol Control; Fish and Shellfish Composition; Fish, Storage; Frozen Food Storage; Frying Time; Minerals, Food; Portion Size; Shrimp

shrimp a la Canton See **Canton shrimp**

shrimp, brown Refers to several species

Where caught:

Atlantic/Mediterranean (common shrimp)—*Crangon crangon*; *C. vulgaris*

East Pacific—*P. californiensis*

Indian Ocean—*P. canaliculatus*

Southwest Atlantic, Gulf—*Penaeus aztecus*

shrimp cracker A crisp, puffy, cracker made from dried shrimp and egg white and deep-fat-fried. Can be purchased prefried

shrimp, cream of, canned soup

Composition	Condensed	Condensed, prepared with milk	Condensed, prepared with water
Moisture (%)	84.5	86.4	92.2
Protein (%)	2.2	2.7	1.1
Fat (%)	4.1	3.7	2.1
Carbohydrate (%)	6.5	5.6	3.4
Ash (%)	2.3	1.5	1.2

shrimp paste A fermented salty (20–25%), shrimp paste condiment; a mixture of shrimp, chilies, and curry

Types:

Eastern—pungent condiment

European—cooked, mashed shrimp flavored with salt, onion, Worcestershire sauce, and cayenne pepper

Shrimp, potted Shrimp preserved in butter

shrimp salad (broken shrimp; pieces of shrimp)
Canned pieces of shrimp

shrimp, sun dried Shrimp cooked in brine, head and shell removed, and sun dried

shrink Loss of weight; loss in weight of grease wool in the cleaning process

shrinkage (drift) Loss in livestock weight from farm to market; reduction in size or weight, e.g., difference between hot and chilled carcass weight

shrink film Film that will shrink on reheating

shrink wrap Plastic film that will shrink when heated

Shropshire A medium-wood, mutton-type breed of sheep that originated in west central England from several native types of sheep; its face is covered with wool except the mouth and nose area, which is usually brown to black; it has no horns and approximately $\frac{3}{8}$ grade fleece

See Part 2: Sheep Breeds

shropshire blue A piquant-flavored, hard rind, blue cheese made from cow's milk

shroud Unbleached cotton duck cloth used on beef carcasses; used to improve carcass appearance and to reduce shrinkage

shrouding Placing wet shrouds on a warm beef carcass to absorb the blood and smooth the fat while the carcass is cooling

shrub A beverage made of sweetened fruit juice and alcohol

shuck To remove covering (pod, husk, or shell) from corn, peas, shellfish, etc.

shuckworm See **hickory shuckworm**

shui-guo Fruit

shungiku (*Chrysanthemum spatiosum*; *C. coronarium*) Young plants that are used as cooked green vegetables. Aromatic greens cooked like spinach

shunt To provide an alternate pathway

shuring Pleating and compressing sausage casings to shorter length

shurpanir Dried, hard spheres of fermented milk or milk curds

SI 1) The international system of units 2) The metric system

Si Symbol for the element silicon

sibamu A beer made by adding skimmed milk to maize porridge

Siberian cisco (*Coregonus sardinella*) A food fish

sibling Offspring having one or both parents in common

sican gwyn Sour buttermilk and oatmeal gruel

sicer Strong drink

sicharon Skin and a thin layer of fat that is salted, fried, and stored in lard

Sicilian salami A coarse-chopped salami made from beef and pork

sicille An esbareich-type cheese matured from 1 month to 1 year

sickle hock A hock that has too much bend in it when viewed from the side

SIDA Swedish International Development Authority

sida Small (usually *Barbus*), dried fish packed in fish oil

side A half-carcass of pork or beef
See Part 2: Pork Cuts; Pork Wholesale Cuts; Pork Yield

side bone 1) An unsoundness in horses 2) Hip bone

side chain A straight chain attached to one of the atoms of a ring

side dressing Applying fertilizer along the row beside the plants

sidemeat Offal; organs; variety meat

side seal Sealing surface on containers; vertical portion of finish

side seam The body blank seam joining the two edges to form a can body

side wall The part of a glass container between the heel and the shoulder

sidi rais A red wine

sidi saad A red wine

siedlecka A semidry, uncooked, hot smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and lamb with plasma added and stuffed into beef casings

siedwurst A moist, cooked or uncooked Swiss sausage made from unsmoked, finely chopped, medium seasoned beef and pork and stuffed into beef casings

sierra A king mackerel, food fish

sierra rice A cooked, stable of fermented rice

sieve A perforated device for separating fine from coarser particles; a metal screen from 100 to 400 mesh

sift To put through a sieve (e.g., flour)

sifted Separation of material according to size by passing through wire sieves. The separation of finer material would be done by screening

sight glass A glass tube used to determine liquid level in a retort

sigma (Σ, σ) A Greek letter with an English equivalent of s; σ often used to denote standard deviation; Σ often used to denote "sum of"

significance (statistical) States that differences between samples are real and not due to chance variation. Significant difference (0.05; *) is a difference that has a 5% probability of occurring by chance alone; a highly significant difference (0.01; **) is a difference that has a 1% probability of occurring by chance alone
See Part 2: Correlation Significance; F-Distribution

significant Important; meaningful

significant effect One in which a treatment resulted in an average that was different (greater than that normally caused by chance) from another group(s)

significant figures The number of digits in a value that differentiates this value from the one next to it; it is independent of decimal points and zeros;

231 0.00231 2.31 23100	}	all have 3 significant figures ← If next number that could be read is 23200
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si-iu A soy sauce

sikokiyana A viscous, brown-colored, slightly bitter, mildly alcoholic beer

silage Stored cattle fodder produced by fermentation (in a silo or trench protected from the air) of green fodder with the production of lactic acid, acetic acid, and sometimes other acids. Corn harvested when it reaches full maturity or black layer stage (kernel attachment is black; immature corn will be white). Can sometimes impart flavor to milk. Weight per cubic foot 30–45 pounds depending on depth in the silo, packing, and the substance from which the silage is made. Trench type, whole corn 50–60 cubic feet per ton; upright (16–24 foot diam) 45–55 cubic feet per ton

silba A medium-flavored, semisoft cheese

sild Young herring

silent cutter A bowl chopper, used for comminuting meat from sausage

690 silent spirit

silent spirit Distilled spirit with most of the products removed except ethyl alcohol and water

silesian cheese A cheese made from skimmed cow's milk and flavored with caraway seed and onions

silica See sand

See Part 2: Maple Syrup Composition

silica, activated Sodium silicate that is precipitated by reducing the pH below 9. At a critical point of the precipitation (gel), it becomes a flocculation aid

silica gel A dehydrated form of sodium silicate, used as a dehumidifying agent in food packaging because of its highly porous structure, which enables it to absorb water molecules from the air

silicle Pericarp or seed vessel

silicon (Si) A nonmetallic element; at. no. 14; at. wt. 28.09; Group IVA of Periodic Table; oxidation states +2, +4, -4
electron configuration 2-8-4
orbit K L M

silicon dioxide (hydrated silica, silica aerogel) (SiO_2) used as a food defoaming agent or anticaking agent

Storage: tight container

siliqua Fruit of cabbage or related plants; pods of mustard family

Siljan's crispbread A cracker containing no sugar

silk Cellulosic fibers within the corn husk

See Part 2: Corn

silk fiber An animal protein fiber constructed of the protein fibroin cemented together by the protein sericin. Obtained from the cocoon of the silkworm, which feeds upon leaves of the mulberry tree. The cocoons are dry-heated to kill the silkworm and placed in boiling water to soften the substance holding the threads together; the silk is then unwound, twisted or spun (called throwing), and then is ready for weaving on a loom. Processed silk fiber (yarn) is almost pure fibroin

silo A large cylindrical chamber or a trench in which silage is fermented and stored

silt Fine soil material

See Part 2: Soil Classes

silver (Ag) A metallic element; at. no. 47; at. wt. 107.880; Group IB of the Periodic Table; oxidation state +1; highest electrical conductivity of any metal
electron configuration 2-8-18-18-1
orbit K L M N O

Resistant to solubility in food in the absence of sulfur; there is no evidence that silver will migrate to food in harmful amounts from silver utensils

See Part 2: Normal Solutions; Salmon and Trout; Water Drinking Standards

silver beet Sea kale

silverbelly (*Leiognathus bindus*) An Indian food fish

silver carp (*Hypophthalmichthys molitrix*) A food fish

silver fizz A beverage made from gin, egg white, and carbonated water

silver hake See hake; whiting

silverling A plant having a toxic principle

See Part 2: Poisonous Plants

silver maple A tree that makes good firewood; 19 million Btu's per cord (20% moisture); medium-easy to start; easy to split; light smoke; excellent coals and few sparks

silver mullet See mullet

silver nitrate (AgNO_3) May be used as a germicide and antiseptic

See Part 2: Normal Solutions

silver perch A freshwater, drum, food fish

silver (coho) salmon A light meat, light to moderate flavor, fin fish See salmon

silverside (half-round) 1) The top or inside or medial or upper part of a beef round; cured beef from this area 2) A salmon

Argentine (*Austromenidia* spp.)—Atlantic

Atherine (*Atherina presbyter*, *A. boyeri*)—north-east Atlantic

Atlantic (*Menidia menidia*, *M. notata*)—north-west Atlantic

Brook (*Labidesthes sicculus*)—freshwater, North America

Californian Grunion (*Leuresthes tenuis*)—Pacific Tidewater (*Menidia beryllina*)—Atlantic; freshwater, North America

See also salmon; smelt

silver skin Thin membrane on an onion

silver weed A weed whose roots are eaten like parsnips

silvex Chemical name: 2-(2,4,5-trichlorophenoxy) propionic acid. A phenoxy herbicide

simazine See Part 2: Corn Herbicides

simit A ring-shaped, wheat flour roll with sesame seed

SIM medium See Part 2: Microorganism, Media; Microorganism Reactions on Differential Tube Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

Semmental (Fleckvieh; Pie Rouge; spotted breed) A large, dual purpose, breed of cattle originally from Switzerland

Name

Czechoslovakian Strain—Czechoslovakia

Fleckvieh—Germany

Kula—Bulgaria

Polish Strain—Poland

Red Pied Fruilli—Italy

Romanian Strain—Romania

Russian Strain—Russia

Simmental—Switzerland

Tachete Rouge—France

Yugoslav Pied—Yugoslavia

European red and white cattle; mature bull weight 2300 pounds

See Part 2: Gestation Periods

simmer To cook in a liquid at a temperature of approximately 185°F

See Part 2: Fruit, Dried, Simmering; Fruit, Simmering; Lamb Simmering; Meat Composition; Simmering Meat

Simmons citrate agar See Part 2: Microorganism Media; Microorganism Reactions on Differential Tube Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

simonsulei A white or red wine

simple fruit Fruit formed from a simple ovary; e.g., apple, peach, pear, and plum

simple glyceride A glyceride in which all three acids of the triglyceride are alike

simple protein A naturally-occurring protein made up primarily of amino acids

simple syrup Solutions of sugar and water of various concentrations; usually boiled down to maximum of 35% water; used in confectionery, soda fountain syrups, etc. *See gum syrup*

simpion A semihard, full fruity flavored cheese made from cow's milk

sim-sim *See sesame*

sinasan Shallow-fried cakes made from millet or sorghum flour

Sinchin Black pigs with white marks, turned-up snouts, and erect ears found in northeast China and obtained by crossing Berkshire and local pigs

Sinclair, Upton Author of *The Jungle* *See Jungle, The*

sine (sin) A trigonometric function;

$$\sin = \frac{\text{ordinate}}{\text{hypotenuse}}$$

sinew The tendon of a muscle

singe To slightly burn the surface; to use a flame to remove hair or feathers; e.g., to burn hair when slaughtering hogs

singha A rice beer

singhara nut *See water chestnut*

single cell protein (SCP) Potential food protein from microorganisms

single crust pie A fruit pie with pastry top

single sampling A decision to accept or reject a lot is made after examining one sample (usually not one item) from the lot

Single Standard Polled Durham Cross of native polled cows with horned Shorthorn bulls; since 1905 all cattle must be traced to recorded stock; in 1919, Shorthorn was substituted for Durham in the name; in 1923 the association was disbanded and the pure polled Shorthorn was registered in the Shorthorn herdbook

Single Standard Polled Hereford Registered from 1900 to 1907 and are a cross between a polled breed sire (e.g., Angus or Red Poll) and a horned Hereford cow; never were registered in American Hereford Record; since 1949 all lines must be traced to registered Hereford

single stimulus *See Part 2: Taste Panel, Difference Tests*

sinigang Meat or fowl soup cooked with tomatoes and vegetables and seasoned with sour fruit

Sinkiang fine-wool sheep A white, fine-wool (60/64s quality), sheep raised for wool and found in northern China. Developed from Merino rams and Kazakh and Mongolian ewes

sintered glass *See fritted glass*

sinus A cavity in the bone structure; a blood channel

sinus node An area in the right auricle that is stimulated by a nerve and causes the auricles to contract

sipesu A viscous, brown-colored, slightly bitter, mildly alcoholic beer

siphon A U-tube used to transfer liquid from an upper level to a lower level

sir Balkans word for cheese

siraz A semihard, smooth, whole milk cheese; dried, hard spheres of fermented milk or milk curds

sire A male parent

sirene A white brined cheese made from sheep's milk

sirloin A cut of meat; posterior section of loin or larger end of loin; contains principally gluteus muscle; 1) Steak (back to front), wedge bone, round bone, double bone (flat bone), pin bone (hip bone). 2) Strip (New York cut; KC steak), the dorsal muscles to the lateral processes of the vertebrae in the porterhouse, T-bone, and club steak area. 3) Tip, a cut of beef obtained when the hind quarter of beef is cut national style; it is located adjacent to the round and the sirloin and before the rump *See also top sirloin*
See Part 2: Beef Retail Yield; Beef Wholesale Cuts; Bone in Retail Cuts; Broiling Meat; Broiling Time and Temperature; Lamb Cuts; Meat Identification; Pork Cookery; Pork Cuts; Pork Loin Cooking; Pork Loin Nomenclature; Pork Yield; Roasting, Time and Temperature; Veal Chart; Veal Cuts

sir mastny A rennet, sheep's milk cheese

sirok A panir-type cheese made from cow's milk

sir posny cheese (lord; mrsav) A hard, white cheese with many small eyes made from skimmed sheep's milk with rennet added

sirup (syrup) A solution of sugar in water. May come from sugar cane, molasses, sorghum, maple, corn, or fruit

Concentration for fruit	Cups	
	Sugar	Juice or water
Thin	1	3
Moderate	1	2
Medium (stock)	1	1
Heavy	2	1
Simple (bar, gomme, gum)	4	1
Stock	2	2

Type	Sugar (cups)	Water (cups)	Sirup yield (cups)
30%	2	4	5
35%	2.5	4	5.3
40% (used for most fruits)	3	4	5.5
50%	4.75	4	6.5
60%	7	4	7.75
65%	8.75	4	8.7

1 pound = 1.33 cups

1 cup = 12 ounces

1 tbsp = $\frac{3}{4}$ ounces

1 tsp = $\frac{1}{4}$ ounces

Composition: table blends, 1 tbsp = 55 calories

See also **cany; syrup**

See Part 2: Minerals, Food; Sugars and Sweets Composition

sirup, bar (sirup; gomme; sirup, gum) Bring 4 cups of sugar and 1 cup of water to a boil; simmer until clear; bottle

sirup, gomme See **sirup, bar**

sirup, gum See **sirup, bar**

sirup pack Food packed in a sugar sirup solution

sisal (henequen; Agave sisalana) A plant used to produce coarse, strong, hard fibers

si-sek-chai Pickled mixed vegetables

sito- Pertaining to food

sitology Study of food, diet, and nutrition

sitophobia Refusal to eat; feat of food

sitosterol (C₂₉H₄₈O) A sterol that is found in the unsaponifiable fraction of vegetable oils such as corn, cottonseed, linseed, and wheat

situta See **kumiss**

six digit code See **container specification code**

si-yau A soy sauce made with wheat

size 1) To bring to dimensions. 2) A thin coating

size neutral A policy that would give benefits, in an amount such as to neither encourage nor discourage change in farm operation size

skabupurta A sour gruel made with buttermilk, milk, and barley

skaddon Larva of bee

skate A type of ray

Raja batis—skate; Europe; Atlantic

R. binoculata

R. erinacea—little; eastern U.S.; Pacific

R. laevis—Europe; Atlantic

R. lintea—sharp-nosed

R. marginata—owl

R. oxyrhynchus—long-nosed

A large flat fish

See Part 2: Vitamin D, Fish

skeel A vessel for milk

skeletal muscle Voluntary, striated muscle that is connected to the skeleton

skeleton The bony system of an animal or human body

See Part 2: Organ Weights

skeleton weed (Lygodesmia juncea) An annual weed

skep Straw hive for bees

skewer (skiver) A long metal or wooden pen for fastening meat. May also be used to hold meat for grilling

skhou A spirit distilled from kefir

skhow See **skhou**

skid Single-faced platform used for supporting material during transportation or storage See **pallet**

skidder (dead-head; spinner) A can with an incomplete double seam due to slipping on the base plate See **dead-head**

skillet A shallow frying pan

skim To remove the top layer, e.g., of fat from a liquid

See Part 2: Dairy Terms; Milk and Cheese Composition; Milk Composition; Milk, Concentrated Products; Nicotinic Acid, Food; Riboflavin, Food; Vitamin A, Milk and Milk Products

skimmed milk (nonfat milk; separated milk) A class name for skimmed milk, concentrated skimmed milk and nonfat dry milk; milk from which the fat has been removed by skimming or separating. Milk containing less than 0.5% milk fat and at least 8.25% nonfat milk solids. Addition of vitamin A (2,000 I.U. vitamin A per quart) is required and vitamin D (400 I.U. vitamin D per quart) is optional
1 cup = 245 g (8.5 oz).

See Part 2: Calories, Daily Recommendations; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Milk and Milk Products, Vitamin Content

skimmer See **clam**

skin 1) The exterior coating of the body, composed of epidermis, corium, and the subcutis as the major layers. 2) A small hide (in cattle, weighing under 30 pounds after curing. 3) A pelt of a small wild or domestic animal. 4) Animal hide used for holding liquids, e.g., wine. 5) To remove the skin

See Part 2: Gland Weights; Organ Weights; Poultry Yield; Turkey Composition

skinkupyls A moist, cooked, unsmoked Icelandic sausage made from finely chopped, medium seasoned pork with pork fat added and stuffed into artificial casings

skinless wiener A wiener that is cooked and smoked in an artificial casing, which is then removed

skip Light common pig or lamb

See Part 2: Casings, Hot Bungs

skipjack (Euthynnus pelamis) A food fish See **tuna**

skip-lot sampling When a specified number of consecutive lots have been accepted by sampling, with no lots rejected, the sampling frequency may be decreased by prescribed procedures

skipper (saury pike) A food fish

See Part 2: Cheese Skipper

skirret (Sium sisarum) A perennial, hardy vegetable producing a small, tender, sweet, fleshy, semi-cylindrical white root used similar to cooked salsify (cone must be removed)

skirt 1) The nonmuscle membrane of the diaphragm that separates the thoracic cavity from the abdominal cavity or the diaphragm muscle; narrow thin muscle used for steak or sausage. 2) Beef flank. 3) Vertical portion of a container closure

See Part 2: Beef Rib Nomenclature

skiver 1) The outer layer (wool side) of a split sheep skin made into leather and used to line shoes. 2) A skewer

skolepse A dry, uncooked, smoked Norwegian sausage made from medium chopped, heavily seasoned beef and pork with plucks added and stuffed into artificial casings

694 smallfish

smallfish See **whitebait**

smallholder Cheddar cheese made on farms

small intestine A long tubular digestive organ receiving contents from the stomach; the place where digestion is essentially completed and where monosaccharides, amino acids, fatty acids, and other small molecules are absorbed into the blood. Sections include duodenum, jejunum, and ileum; pH 6-8; juice from the pancreas and bile from the liver aid in digestion

small-mouth buffalo (*Ictiobus bubalus*) A food fish

small packers hides Hides taken off by relatively unskilled labor

Small Yorkshire (Small White) A small, white (occasionally with black spots) hog native of England

smartweed (*Polygonum pensylvanicum*) An annual weed

smash An alcoholic (brandy, gin, whiskey) drink containing sugar, mint, and water

smatana Sour cream

smear A specimen of a body fluid placed on a glass slide for microscopic study

smearcase A cottage cheese

smearing Causing fat to coat lean tissue giving the appearance of a much fatter product; can be caused by any of the following: dull grinding equipment; rise in meat temperature; warm meat-handling equipment

smearwurst See **mettwurst**

smell To detect a scent or odor by the olfactory nerves
See **odor**

smelt (bay smelt; candlefish; Columbia river smelt; grunion eulachon smelt; jacksmelt; silverside; surf smelt; whitebait) A number of small, troutlike fish caught in North Atlantic; Pacific coast, Columbia river, and bays from Mexico to Canada and Great Lakes.

American (*Osmerus eperlanus mordax*)—5% fat; Atlantic; freshwater, Lake Michigan; North America

Arctic (*O. dentex*)—Pacific; freshwater, North America

Columbia River—eulachon

Eulachon candlefish (*Thaleichthys pacificus*), 10% fat

European (*O. eperlanus*), northeast Atlantic Pond (*Hypomesus olidus*)

A small (10-12 inch; 1-8 oz), both fresh and saltwater, finfish; color is greenish above and silver below; a light meat with a high fat content and a rich mild, very light delicate flavor.

Composition (raw): moisture 79%; protein 19%; fat 1-2%; ash 1%; fat-to-lean composition changes with type

American smelt (*Osmerus mordax*) 5% fat.

Eulachon or candlefish (*Thaleichthys pacificus*) 10% fat.

See Part 2: Fish, Storage

smelt, green Freshly caught smelt

smetana Sour cream

smierkäse Cottage cheese

smiggins Barley soup

Smithfield ham A deep red, heavily smoked, country ham cured with salt, saltpeter, and pepper and smoked with hickory and applewood; it is then aged from 7 to 18 months

Smith-Lever Act The act passed in 1914 that established the Agricultural Extension Service

smjor A cream cheese made from cow's milk

smoke 1) A colloidal suspension of a solid in air (or other gas). 2) To hang in smoke and apply smoke to food for flavor, color, and preservation, e.g., fish or meats

See Part 2: Fish, Smoke-Cured; Free Fatty Acid, Smoke, Flash, Fire Points

smoked meat Meat that has been dried or cured and then wood smoke deposited on it; any hardwood makes a satisfactory smoke.

Smoked product—Minimum internal temp. 137°F; recommended internal temp. 140°F

Tender—140°F minimum internal temperature and a process leading to tenderizing

Cooked (fully cooked, ready-to-eat, ready-to-serve)—148°F minimum internal temperature and a description of the process which ensures partial separation of meat from bone, easy separation of tissue; and cooked color, flavor and texture throughout

smoked pork sausage Pork sausage that has been smoked with hardwood or other nonresinous materials; maximum of 50% trimmable fat; maximum of 3% added moisture See **pork sausage**

smokehouse A building or container in which food is smoked and often heated

smokehouse shrink Loss of weight, mostly moisture, during smoking and/or cooking

smoke point Temperature at which fat starts to smoke.

Fat	°C	
Average lard	195	} varies with fatty acid content
Leaf lard	220	
Old lard	190	
Crisco	230	

High smoke points (215-230°C) are desirable for good frying fats or oils; smoke point temperature decreases as surface area exposure increases See also **flash point** and **various fats**

smokie link A cooked, smoked sausage; made with coarsely ground beef and pork and seasoned with pepper

smokies A moist, cooked, heavily smoked, cured American sausage made from coarsely chopped, mildly seasoned (with black pepper) beef and pork and stuffed into pork or artificial casings

See Part 2: Fish, Smoke-Cured

smoking Meat or fish preserved by drying in wood smoke

smoko Morning and afternoon tea

smoky 1) A burntlike odor or flavor. 2) Cloudy appearance. 3) Emitting smoke

smooth An even (not rough) surface texture; free from hair, roughness, or indentations

smooth-hound A smooth dogfish used as a food fish

smooth (involuntary) muscle A muscle constructed of cells with a single nucleus found in the visceral area and the walls of most tubes in the body; it has slow, rhythmic contractions

smorbrodpolse A moist, cooked, smoked Norwegian sausage made from medium chopped, mildly seasoned beef and pork and not stuffed into casings

smorchok See **morel**

smorgasbord A sandwich table; a display of hors d'oeuvres; appetizers; a table with a variety of food, chiefly cold fish of several kinds; originated in Sweden

smorrebrod Open-faced sandwiches

smother To cook in a covered dish or a closed mass

smut *Basidiomycetes*, especially *Ustilago tritici* and *Tilletia tritici* that cause fleshy galls on corn stalks, leaves, tassels, and ears See **rust**

Sn Symbol for element tin

snack Food prepared and eaten quickly in place of a meal; a meal consisting of a small quantity of food; small quantities of food usually eaten between meals; light meal; a very narrow (less than 10 mm), cooked and smoked, dry, beef and pork sausage

snail [*Helix pomatia* (most common) *H. aspersa* (smaller)] Edible type (*Helix pomatia*) called escargot. Available fresh, cleaned, or canned. Composition (raw): moisture 79%; protein 16%; fat 1%; carbohydrate 2%; ash 1%

snake gourd A tropical gourd that may be up to 6 feet in length; used as food; picked when immature, sliced, and boiled

snakeroot A bitter-tasting herb; grass whose leaves are used like spinach

snake squash See **loofah gourd**

snakeweed A plant having a toxic principle See Part 2: Poisonous Plants

snake wine A beverage made by soaking a snake in alcohol

snapper (mangrove; red; yellowtail; vermilion; Lutjanus spp.; Lutjanus) Sometime refers to Pacific ocean perch, or small haddock less than 1.5 pounds 1) Several varieties of fish; a saltwater food fish weighting up to 30 pounds

Types:

Gray or mangrove
Pargo or mutton fish
Red

Saltwater food fish

Black (*Apsilus dentatus*)—northwest Atlantic

Lane (*Lutjanus synagris*)—northwest Atlantic

Mangrove (*Lutjanus griseus*)—north Atlantic

Mutton (*Lutjanus analis*)—northwest Atlantic

Pargo Colorado (*Lutjanus colorado*)—Pacific

Red Emperor (*Lutjanus sebae*)—Australia

Red Snapper (*Lutjanus campechanus*)—northwest Atlantic

Schoolmaster (*Lutjanus apodus*)—northwest Atlantic

Taiva (*Lutjanus marginatus*)—Japan

Vermilion (*Rhomboplites aurorubens*)—northwest Atlantic

Yellowtail (*Ocyurus chrysurus*)—northwest Atlantic

Composition: fat 1.1%

2) Freshwater turtle (*Chelyda serpentina*)

snappy cheese See **club cheese**

snaps See **schnapps**

sneezeweed A plant having a toxic principle See Part 2: Poisonous Plants

snet Deer fat

snijworst A semidry, uncooked, smoked Dutch sausage (cervelat) made from medium chopped, medium seasoned beef and pork that is fermented and stuffed into beef or artificial collagen casings

sno-belle A camembert-type cheese made from mixed whole and skimmed cow's milk

snoek (Thyrsites atun) A South African, food fish See Part 2: Vitamin D, Fish

snook (Australuzza novae-hollandiae) A finfish used for food in Oceania; has white meat and light to moderate flavor

snout Muzzle (nose, jaws, and mouth) or nose in swine See Part 2: Pork Cuts and Uses

snow A term sometimes used for beaten egg whites and puddings made with egg whites See **carbon dioxide; dry ice**

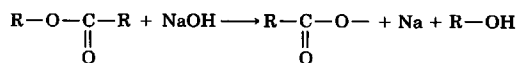
snow mold (Fusarium spp.; Typhula spp.) Fungi that cause defoliation in wheat

snow pea (Chinese pea) A small green pea See **Chinese pea; pea; pea, snow**

Snyder test agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

soak To place in liquid; to leave in liquid; to become saturated or permeated with liquid

soap The salt of a fatty acid; a detergent obtained by alkaline [sodium hydroxide (hard soap) or potassium hydroxide (soft soap)] hydrolysis of animal or vegetable fats or oils



See **saponification**

soap stock (foots) Alkali soaps, made from fatty acids, that settle to the bottom during the refining of oils See also **residue**

See Part 2: Margarine Production

soapstone (talc) Hydrated magnesium silicate (steatite) used in laboratory table tops. Clean with solvents; dressing; 1 pound paraffin, 1 quart kerosene, 2 quarts raw linseed oil. Apply hot and buff in 2 hours

soapy (slimy) A food fish

soave A white, dry, Italian wine

soba Buckwheat noodles

sockeye See **salmon**

See Part 2: Salmon and Trout

696 sockeye (red) salmon

sockeye (red) salmon A darker meat, light to moderate flavor, finfish used for food

soda A general term for various sodium compounds; bicarbonate of soda; baking soda *See also* **baking soda; caustic soda; ice cream soda; soda alum, sodium carbonate**

soda alum (sodium alum) Aluminum sodium sulfate; used as a food additive and in baking powders *See* **aluminum soda sulfate**

soda ash *See* **sodium carbonate**

soda bread Bread that uses bicarbonate of soda or baking soda as a leavening agent; buttermilk or sour milk is also often used

soda cracker A crisp, flaky, nonsweet, usually salty, thin wheat flour biscuit made by fermentation and chemical aeration; a cracker made with cream of tartar

1 cracker = 2.8 grams

Composition: sodium 43 mg per cracker

See Part 2: Fermented Ingredients

soda glass Glass with a low melting point and a high coefficient of expansion that breaks easily under thermal shock

soda lye *See* **caustic soda**

soda pop A carbonated, nonalcoholic beverage

soda water Carbon dioxide in water under pressure (a misnomer)

sod buster bills Bills to prevent the plowing of range land and the planting of grain crops

sodium (Na) An alkali metal element; at. no. 11; at. wt. 22.997; Group IA of the Periodic Table; oxidation state +1
electron configuration 2-8-1
orbit K L M

Body function: found in buffer system, in saliva, pancreatic and intestinal juices; and in blood plasma and fluids outside the body cells; helps to maintain normal water balance

Body requirements (23-50-year-old female): 1,100-3,300 mg per day

Salt (sodium chloride) is 40% sodium

mg salt = mg of sodium/0.4

mg sodium = mg salt \times 0.4

milliequivalents of sodium (mEq)

= mg of sodium/23

mg of sodium

= milliequivalents of sodium (mEq) \times 23

Good sources: eggs, fish, many processed foods (salt added), meat, poultry

1 teaspoon, salt = 2,000-2,400 mg of sodium

1 shake of an average salt shaker = 144 mg sodium

See Part 2: Egg Products, Nutritive Value; Fruit and Vegetables Composition; Grain Analysis; Lemon Juice Composition; Macaroni and Noodles Composition; Manure Analysis; Maple Syrup Composition; Minerals, Food; Normal Solutions; Sodium-Restricted Diet; Tomato and Tomato Products, Composition; Wheat, Minerals

sodium acetate, hydrous ($\text{CH}_3\text{COONa} \cdot 3\text{H}_2\text{O}$)

Can be used as a source of acetic acid for pH control in food; used as a preservative and as a food buffer

Storage: tight container

sodium acid carbonate *See* **baking soda**

sodium acid pyrophosphate (disodium dihydrogen pyrophosphate; disodium acid pyrophosphate; disodium pyrophosphate; SAP) ($\text{Na}_2\text{H}_2\text{P}_2\text{O}_7$) Used as a food buffer, sequestrant, acid in leavening mixtures, and to speed up color and development in sausage

Storage: tight container

See **phosphate**

sodium acid sulfate (sodium bisulfate) (NaHSO_4)
Used to bleach and swell leather

sodium acid sulfite (sodium bisulfite) (NaHSO_3)
Used as a disinfectant, bleach, and an antiseptic in fermentation

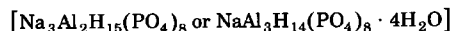
sodium alginate (algin) [$(\text{C}_6\text{H}_7\text{O}_6\text{Na})_n$] A cream-colored powder used as a clarifying agent; a carbohydrate extracted from seaweed and used as an emulsifying and thickening agent and to prevent growth of ice crystals in ice cream *See also* **algin**

sodium alum *See* **aluminum sodium sulfate; soda alum**

sodium aluminosilicate Used in washing compounds

sodium aluminum phosphate Used in cheese and as a buffer in flour

sodium aluminum phosphate, acidic



Used as a food leavening agent

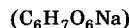
Storage: tight container

sodium aluminum phosphate, basic (kasal) Used as a food emulsifier

Storage: tight container

sodium aluminum sulfate Used as a food leavening agent

sodium ascorbate (vitamin C, sodium)



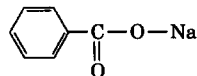
Used as a food antioxidant; dietary supplement; nutrient

Storage: tight container in the dark

See **ascorbic acid**

sodium bentonite A fine grade of clay used to bind pellets

sodium benzoate (benzoate of soda)



A food preservative and antimicrobial additive used in acid foods (pH 2.5-4.0), fruit products, and margarine; in use, it is converted to benzoic acid, the active form

Storage: tight container

See also **benzoic acid**

sodium bicarbonate (baking soda; bicarbonate of soda; sodium acid carbonate) (NaHCO_3) Used as a food alkali, buffer, or leavening agent; 27% sodium

Storage: tight container

See **baking soda**

sodium bisulfate (niter cake; **sodium acid sulfate**) (NaHSO_4) Used as a food acid

Storage: tight container

sodium bisulfite (**sodium acid sulfite**; **sodium hydrogensulfite**) (NaHSO_3) Often also contains sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$); used as a food preservative

Storage: tight container in a cool place

See **sulfur dioxide**

sodium calcium alginate A food stabilizer, thickener, and texturizer

sodium carbonate (**soda ash**, **washing soda**) (Na_2CO_3) Used as a food alkali, food neutralizer, and water softener; an alkaline cleaner with good buffer capacity; poor water softener, fair emulsifier and deflocculant

Storage: tight container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Detergent Properties; Normal Solutions

sodium carboxymethylcellulose (**cellulose gum**; **CMC**); Used as a food stabilizer or thickening agent

Storage: tight container

See **carboxymethylcellulose**

sodium caseinate See **casein**

sodium chloride (**salt**) Used as a flavoring agent in food and intensifier, preservative, and nutrient

Storage: tight container

See **salt** (1)

sodium citrate (**trisodium citrate**) White, odorless, granules, crystals, or powder used as a complexing agent for iron and calcium in food; prevents coagulation of blood. Also used for pH control, as an emulsifier, buffer, sequestant, and nutrient for cultured buttermilk

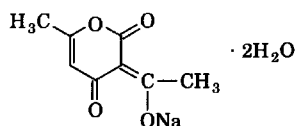
Storage: tight container

See also **citrate**

sodium cyclamate ($\text{C}_6\text{H}_{12}\text{O}_3\text{NSNa}$) A nonnutritive artificial sweetener; prohibited for use in foods by FDA due to possible carcinogenicity

sodium decaphosphate See Part 2: Detergent Properties

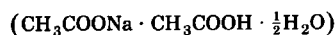
sodium dehydroacetate



Used as a food preservative

Storage: tight container

sodium diacetate



Can be used as a source of acetic acid; used as a food, mold, and rope inhibitor, sequestant, preservative, and antimicrobial food additive; often used in baked goods

Storage: tight container

sodium dichloroisocyanurate



Used as sanitizer and cleaning agent

See Part 2: Chlorine Availability; Sanitizers

sodium dihydroacetate A food stabilizer used in peeled squash

sodium erythorbate (**sodium isoascorbate**) ($\text{C}_6\text{H}_7\text{NaO}_6 \cdot \text{H}_2\text{O}$) Used as a food preservative and antioxidant; used in cured meat

Storage: tight container in a dark place

See **ascorbic acid**

sodium ferric pyrophosphate ($\text{Na}_8\text{Fe}_4(\text{P}_2\text{O}_7)_5 \cdot x\text{H}_2\text{O}$) Used as a food nutrient or dietary supplement

Storage: tight container

sodium ferrocyanide (**yellow prussiate of soda**) ($[\text{Na}_4\text{Fe}(\text{CN})_6 \cdot 10\text{H}_2\text{O}]$) Used as a salt, anticaking agent

Storage: tight container

sodium fluoride (NaF) An inorganic insecticide; an antiferment; fluoridation of drinking water (1 part per million). It is poisonous

sodium gluconate [$\text{CH}_2\text{OH}(\text{CHOH})_4\text{COONa}$] Used as a food sequestant, nutrient, or dietary supplement

Storage: tight container

sodium hexametaphosphate A detergent sold under the trade mark of Calgon. Used as an emulsifier, sequestering agent, texturizer, or water softener

See Part 2: Detergent Properties; Phosphate

sodium hydrogen carbonate See Part 2: Reagents, Normal Solutions

sodium hydrogen sulfite See **sulfur dioxide**

sodium hydroxide (**caustic soda**; **soda lye**) (NaOH) Equivalent weight 40; molecular weight 40. Used as a food alkali, modifier of food starch, glazing agent, peeling agent, refiner of oils and fats, or neutralizer

Storage: tight container

See **caustic soda**

sodium hydroxide solutions

Concentrations (wt/wt)	Freezing points
50%	15°C
73%	63°C

sodium hypochlorite (NaClO) A disinfectant and deodorant used on food-handling material and for chlorination of water. Proprietary forms include Clorox and Purex. Household use should contain 2–6% chlorine and industrial use should contain 10–18% chlorine.

Recipe for disinfectant (0.4% solution):

2 oz fresh chloride of lime

4 oz washing soda

1 gallon of water

Decant or filter

See Part 2: Chlorine Availability; Chlorine Compounds; Sanitizers

698 sodium isoascorbate (sodium erythorbate)

sodium isoascorbate (sodium erythorbate) *See ascorbic acid*

sodium lauryl sulfate $[\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{OSO}_3\text{Na}]$
Used as a food surfactant
Storage: tight container

sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$) Used as a food preservative (prevents fermenting of syrups and sugars and is also used as a preservative in beers, wines, vegetables, and fruit juices) or antioxidant (prevents cut fruit from turning brown); a preservative for silage

Storage: tight container in a cool place

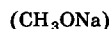
See also sulfur dioxide

sodium metaphosphate (Graham's salt; insoluble sodium metaphosphate; Kurrol's salt; sodium hexametaphosphate; sodium polyphosphate; sodium tetrametaphosphate; sodium tetraphosphate, sodium trimetaphosphate) $[(\text{NaPO}_3)_x \text{ or } \text{Na}_x\text{H}_2\text{P}_x\text{O}_{3x+1} \text{ or } \text{Na}_{x+2}\text{P}_x\text{O}_{3x+1}]$
Used as a food texturizer, emulsifier, and sequestrant
Storage: tight container

sodium metasilicate (Na_2SiO_3) An alkaline cleaner that has good deflocculating and emulsifying properties; it is a fair water softener; also an emulsifier used in egg whites

See Part 2: Detergent Properties

sodium methylate (sodium methoxide)



Used as a catalyst in transesterification of fats

Storage: tight container in a cool place

sodium nitrate (Chilean salt peter) (NaNO_3) Used in meat, poultry, and fish curing and fertilizers; fertilizer notation 16-0-0.2. A food preservative; prevents bacterial growth that causes botulism poisoning. Maximum of 500 parts per million nitrate in cured food; maximum of 10 parts per million nitrate in smoked cured tuna

Storage: tight container

See Part 2: Fertilizer Materials; Nitrate, Meat Curing

sodium nitrite (NaNO_2) Used in meat, poultry, and fish curing; content restricted to 200 parts per million and may be further restricted due to the possible formation of nitrosamines. A food preservative; prevents bacteria growth that causes botulism poisoning. Maximum 156 parts per million nitrite in cured foods; maximum 10 parts per million nitrite in smoked cured tuna

Storage: tight container

sodium orthosilicate ($\text{Na}_2\text{SiO}_3 \cdot 2\text{NaOH}$) A heavy-duty cleaner

See Part 2: Detergent Properties

sodium oxide *See Part 2: Normal Solutions*

sodium phosphate (glassy sodium phosphate; Graham's salt; insoluble sodium metaphosphate; Kurrol's salt; sodium hexametaphosphate; sodium metaphosphate; sodium polyphosphate; sodium tetrametaphosphate; sodium tetraphosphate; sodium trimetaphosphate) Range of composition from $(\text{NaPO}_3)_x$ through $\text{Na}_x\text{H}_2\text{P}_x\text{O}_{3x+1}$ to $\text{Na}_{x+2}\text{P}_x\text{O}_{3x+1}$.

Sodium phosphate, dibasic (disodium monohydrogen phosphate; disodium phosphate) (Na_2HPO_4)

Used as a food emulsifier, buffer, texturizer, nutrient, or dietary supplement

Storage: tight container

Sodium phosphate, monobasic (acid sodium phosphate; monosodium dihydrogen phosphate; monosodium orthophosphate; monosodium phosphate; primary sodium phosphate; sodium biphosphate) (NaH_2PO_4) Used as a food emulsifier, buffer, nutrient, or dietary supplement

Storage: tight container

Sodium phosphate, tribasic (trisodium phosphate) (Na_3PO_4) Used as a food emulsifier, buffer, nutrient, or dietary supplement

Storage: tight container

Sodium phosphate, tartrate (Rochelle salt) $[\text{KOOCC}(\text{H}) \cdot \text{CH}(\text{OH}) \cdot \text{COONa} \cdot 4\text{H}_2\text{O}]$
Used as a food buffer, sequestrant

Storage: tight container

Sodium pyrophosphate (tetrasodium diphosphate; tetrasodium pyrophosphate) ($\text{Na}_4\text{P}_2\text{O}_7$) Used as a food emulsifier, buffer, nutrient, or dietary supplement

Storage: tight container

Sodium tripolyphosphate (pentasodium triphosphate; triphosphate; sodium triphosphate) ($\text{Na}_4\text{P}_3\text{O}_{10}$) Used as a food texturizer

Storage: tight container

See Part 2: Phosphate

sodium propionate ($\text{CH}_3\text{CH}_2\text{COONa}$) Used as a food preservative, food fungicide, or mold and rope inhibitor; inhibits bacterial growth in bakery products

Storage: tight container

See propionic acid

sodium saccharin (sodium o-benzosulfimide) ($\text{C}_7\text{H}_4\text{NNaO}_3\text{S} \cdot 2\text{H}_2\text{O}$) A nonnutritive sweetener approximately 500 times as sweet as sucrose

Storage: tight container

See saccharin

sodium selenite (Na_2SeO_3) alkaloidal reagent

sodium sesquicarbonate ($\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$) used as a food alkalizer or neutralizer

Storage: tight container

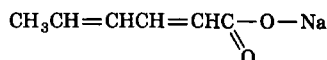
sodium sesquisilicate *See Part 2: Detergent Properties*

sodium silicate (waterglass) Na_2SiO_3 ; Used as a preservative for eggs; in dried form as silica gel

sodium silicoaluminate (sodium aluminosilicate) ($\text{Na}_2\text{O}/\text{Al}_2\text{O}_3/\text{SiO}_2$) Made in the ratio of 1 : 1 : 13.2; used as a food anticaking agent

Storage: tight container

sodium sorbate



An antimicrobial food additive used in beverages, cakes, cheeses, fruit products, margarine, mayonnaise, processed meat, and syrups

sodium stearate ($\text{C}_{18}\text{H}_{36}\text{NaO}_2$) General purpose, food emulsifier

sodium stearyl-2-lactylate Used as a dough conditioner, emulsifier, volume increaser in bakery products, plasticizer, stabilizer, and whipping agent
Storage: tight container in a cool, dry place

sodium stearyl fumarate



Used as a dough conditioner, maturing agent, or bleaching agent

Storage: tight container

sodium sulfate (Na_2SO_4) Used in caramel production

Composition (decahydrate, $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$): dry matter 97%; sodium 13.8%; sulfur 9.65%

Storage: tight container

sodium sulfide (Na_2S) An ingredient of sheep dips
See Part 2: Normal Solutions

sodium sulfite (Na_2SO_3) Light pink, salty crystals or powder used as a food preservative and antioxidant; prevents browning in cut fruit

Storage: tight container

See also **sulfur dioxide**

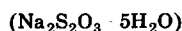
sodium tartrate ($\text{C}_4\text{H}_4\text{Na}_2\text{O}_6 \cdot 2\text{H}_2\text{O}$) Disodium salt of tartaric acid. Used as a food sequestrant

Storage: tight container

sodium tetraphosphate A heavy-duty detergent and cleaner

See Part 2: Detergent Properties

sodium thiosulfate (sodium hyposulfite)



Used as a food sequestrant and antioxidant

Storage: tight container

sodium tripolyphosphate (STPP) A sequestering agent and detergent builder. Used in meat to reduce shrinkage; used as a texturizer; used as a water softener See **sodium phosphate**

See Part 2: Detergent Properties

soft 1) A subjective term (soft to touch) used to describe maturity or ripeness of fruit; yields to physical pressure. 2) Pleasant to the senses. 3) Water free of minerals. 4) No alcohol. 5) Wheat low in gluten

soft cider See **cider**

soft crab Breakdown in a sanitary can; damaged can flange resulting in a hole between the end and body of the container

soft crack Hot syrup dropped in cold water yields hard but not brittle threads

soft curd milk A milk treated (removal of 20% of calcium and phosphorus and by brief digestion with pancreatic enzymes) to form soft, more easily digestible curd for infant and convalescent feeding; milk from some cows has a lower percentage of casein, calcium, and phosphorus and forms a softer curd during digestion

soft drink A nonalcoholic beverage that comes in many flavors (pH 2-4).

Includes:

Any fruit drink, squash, crush, or cordial

Soda water, Indian or quinine tonic water, and any sweetened, artificially carbonated water

Ginger beer and any herbal or botanical beverage

1 quart = five 6 ounce servings

Stain removal from cloth: soak in cold water; wash in warm suds and rinse. If stain remains in washable cloth, soak 15 minutes in 1 tablespoon of bleach and 1 quart of water; in colored cloth soak 1.5 hours in 2 tablespoon hydrogen peroxide and 1 gallon of water

Cola composition: caffeine 46.8 mg caffeine/12 oz

Does not include natural spring water; fruit juice; tomato or vegetable juice; any drink based on milk, egg, meat, yeast, vegetable extract, tea, coffee, or cocoa

See Part 2: Minerals (Trace), Limits; Portion Size; Stabilizers, Thickeners

soft glass See **soda glass**

soft hog A hog fed on acorns or peanuts

soft roe Sperm or milt of male fish See **milt**

soft rot 1) A fungus (collar rot; ring rot; *Rhizopus stolonifer*) rot caused by the "bread mold"; enters sweet potatoes through wounds and bruises. 2) Rot of fresh figs caused by *Rhizopus nigricans* and *Mucor* spp. in which the fruit becomes soft and leaky, flesh turns brown, and the surface is covered with a coarse gray mycelium. Retarded by cooling to 50°F See **black rot**; **endosepsis**

soft-serve frozen desserts Similar to ice milk but specially processed

soft-shell turtle (*Trionychidae*) A freshwater, edible turtle

soft soap Potassium soap

soft water Water that is low in mineral salts; e.g., CaCO_3 or CaSO_4

soft-wheat flour Dough made from this flour tends to break rather than stretch, giving a light, porous structure to the baked product

softwood Wood from all species of coniferous trees (evergreens)

See Part 2: Fuel, Heating Value

soggy Saturated; soaked; wet

sognekorr A beef, lamb, pork, and horse salami that contains offal

sognekorr gilde A dry, uncooked, smoked Norwegian sausage made from medium chopped, medium seasoned beef, lamb, pork, and horse with plucks added and fermented and stuffed into artificial casings

sognemorr gilde A dry, uncooked, smoked Norwegian sausage made from medium chopped, medium seasoned beef, lamb, pork, and horse with large quantities of plucks added and fermented and stuffed into a beef casing

soil The layer of weathered rock, silica, clay, etc., that covers much of the earth's land area

Classification

Gravel—over 2 millimeters

Sand, coarse—0.2-2.0 millimeters

Sand, fine—0.02-0.2 millimeters

700 soil

Silt—0.002–0.02 millimeters

Clay—less than 0.002 millimeters

Light and heavy—refers to amount of force needed for tillage, not to weight

Warm and cold—refers to power of the soil to hold the sun's heat

Arid—soil that receives little rainfall

Alkali—contains large deposits of mineral salt; carbonate of soda often present; more than 0.25% will prevent germination of seed; usually in arid or semiarid regions

See Part 2: Soil Classes

soilage Green crop

soil bank A program to achieve both soil conservation and production control objectives

soil-borne mosaic See **mosaic**

soil rot (ground rot; pox; *Streptomyces ipomoea*)

A sweet potato disease that produces dwarfed plants and large pits in the often dumbbell-shaped potatoes

soil stain See **scurf**

soir Cheese made from sour, milk curd and flavored with caraway seed

soja See **soybean**

soju Vodka

solan A white, brined cheese

solanaceae See Part 2: Vegetables Classification

solanine A toxic glycoside in potato sprouts (0.04%)

solano A dry sherry

solder A low-melting alloy (98% lead, 2% tin) used for joining metals

Low tin: 5% or less tin

See also **tin can**

sole A lean, flat fish that has small mouth and gill openings, and eyes placed close together

Types:

Achirus—U.S.

Australian (*Pseudorhombus* spp.)—Pacific

Azevia (*Solea azevia*)—Portugal

Common (*S. vulgaris vulgaris*)—North Atlantic

Day (*S. vulgaris*)—Europe

Dover

In England the name used for common sole—England

Microstomus pacificus; Pacific (also called Slippery, Slime, and Short-Finned)—Pacific English (*Parophrys vetulus*)

Europe (*Quenselia azevia*)—North Atlantic

Eyed (*Microchirus ocellatus*)—Mediterranean

Flounder—In U.S., may be referred to as sole

French, sand—Mediterranean

Gray (witch flounder)—Pacific and Atlantic coasts;

Canada and central and northern Europe

Indian (*Cynoglossus semifasciatus*)—India

Lascar (*Solea lascaris*)—Atlantic, Mediterranean

Lemon (winter flounder)—Pacific and Atlantic coasts; Canada and central and northern Europe

Linnaeus (*S. solea*)—Europe

Malacopterygiae subbrachiae

Megrim—England

New Zealand (*Peltorhamphus novaezealandiae*)—

Also called Common, or English

Pacific (petrale; rex; sand)—Pacific and Atlantic coasts; Canada and central and northern Europe

Petrale (*Eopsetta jordani*)—Pacific and Atlantic coasts; Canada and central and northern Europe

Rock sole—East Pacific

South African (*Austroglossus microlepis*, *Austroglossus pectoralis*)

Solea profundicola—deep water

Solonet—England

Symphurus—U.S.

Synaptura—Portugal

Thickback, variegated (*Microchirus variegatus*)—Mediterranean, England, Atlantic

Torbay—England

Witch—England

Yellow (*Buglossidium luteum*)—Atlantic, Mediterranean

Delicate taste and texture. White fleshed fish often substituted are flounder and fluke

Fillet = 0.25–0.75 pounds

Composition: protein 16.7%; fat 0.8–1.4%

See also **demersal fish; flounder**

See Part 2: Fish, Storage; Vitamin A, Fish; Vitamin D, Fish

solenoid An electromagnet coil with a moveable iron core

solid fat index Proportion of solid to liquid in a fat
See also **dilatometry**

solid foam A colloidal system in which a gas is dispersed in a solid, e.g., pumice

solidifying point The temperature at which an oil hardens to a soft solid

See Part 2: Margarine Production

solid mouth A mouth with a full set of good teeth

solid pack Canned without liquid and without sugar

solids The nonliquid portion of a food; nonvolatile

See Part 2: Cherry Composition; Lemon Juice Composition; Lime Juice Composition; Milk Breeds, Composition; Milk Composition; Milk, Mammals, Composition; Milk, Species; Milk, Total Solids

solids-not-fat The solids in milk excluding fat, e.g., calcium, casein

solnechnaya bolina A white, dessert wine

solomon's seal A wild lily whose shoots are used like asparagus

solubility The amount of a product (solute) that will dissolve in a given solvent at a given temperature

solubility product (K_{sp})

When $AB(\text{solid}) \rightleftharpoons A^+ + B^-$

$$K_{sp} = (A^+)(B^-)$$

solubilizer A substance that will cause dispersion of an insoluble flavorant in water

soluble Capable of being dissolved; sugar and salt are among the many compounds that are soluble in water

solubles Dissolved substances and sometimes some suspended solids

soluble spice A dry mix of oils and/or resins combined with salt or dextrose. These spices dissolve easily and do not appreciably change the color of the

product. The potency is less stable (due to large surface area when placed on a carrier) than volatile oils

solute A substance dissolved in a solvent

solution A combination of solvent and solute; a uniformly dispersed mixture of two or more substances, which may be either liquids or solids

solvent A substance having the power to dissolve other substances; e.g., acetone, alcohol (ethyl, isopropyl), benzene, propylene glycol, vegetable oil, water

solvent-extracted Extraction of oils with an organic solvent

solvfaks stabbur A dry, uncooked, smoked Norwegian sausage (salami) made from medium chopped, medium seasoned, beef and horse with blood added and fermented and stuffed into artificial casings

som A Russian food fish *See sheatfish*

-som- An affix that means body

somatomedin (SM) A factor induced by somatotropin; insulin-like polypeptide growth factor

somatostatin (SS) A chemical that inhibits somatotropin release

somatotropin (ST) A growth hormone (GH) that increases growth rate, improves feed efficiency, increases muscle mass, and decreases fat

somborski An esbareich-type cheese made from sheep's and cow's milk and cured for 3 weeks

sombrero An alcoholic beverage made by filling an 8-oz glass with ice cubes, adding 1½ oz (1 jigger) of coffee liqueur, filling with chilled milk, and stirring

somen Fine, wheat flour noodles

som-fak A fermented, salty (20–25%), fish paste, condiment

som khay Dried, salted fish roe with fermented cooked rice and minced fish

somlo A dry, white wine

somloi furmint A firm, balanced, soft, Hungarian wine

somloi riesling A clean, delicate, Hungarian wine

SONAFAP Société Nationale de Farine Alimentaire de Poisson

soncoya *See annonaceous fruit; custard apple*

sondertysk spegepolse A beef and pork salami

song-i jim Mushrooms with beef

songknaden A pine-floral, fermented, duck egg

sonti *See pachwai*

sool A rice beer

soot A fairly rapid nitrogen fertilizer; should be well weathered

sooty blotch A fungus that appears as sooty or cloudy blotches on apple and pear surfaces
Control: fungicide spray

sooty stripe *See Part 2: Sorghum Diseases*

SOP Standard operating procedures

sop Food dipped in a liquid

sopa Soup

soporific A substance used to induce sleep

soppressata *See frizzie*

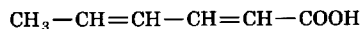
sopressata An Italian, pork salami with some marbling, chewy texture, and no garlic; a dry (moisture-to-protein ratio of 1.9 : 1 or less) sausage, lightly flavored (with garlic and hotly seasoned with red or black pepper) beef and pork salami; sausage placed in wrinkling hog middles *See frizzies*

sor Strong chicha

sorbais A strong, semihard cheese made from cow's milk that has a reddish brown rind and yellow interior

sorbet A frozen dessert or palate refresher or cleanser that contains no dairy products or egg yolks; texture comes from egg whites and fruit; vegetables may also be used; a water, ice, and liquor mixture *See sherbet*

sorbic acid (hexadienoic acid)



White powder, unsaturated fatty acid with two double bonds in the alkyl chain; used as a fungistatic agent in some foods (beverage, bread, cake, catsup; cheese, fruit products, margarine, mayonnaise, processed meat, syrups); it is a harmless substance that can be metabolized by humans. Occurs in unripe fruit of *Sorbus aucuparia*. The acid and its sodium and potassium salts are antimicrobial agents used in food for protection against molds and yeasts and some bacteria at levels from 1000 to 3000 ppm

Storage: tight container in a dark, cool (below 38°C) place

sorbier A brandy made from rowan berries (*Sorbus aucuparia*) macerated and soaked in natural brandy

sorbitan esters Made from fatty acids and sorbitol. Used for gloss retention in coatings and as an emulsifier

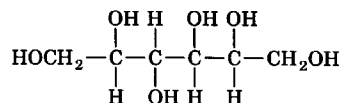
sorbitan monooleate Polysorbate 80

sorbitan monostearate A food additive and emulsifier. Used as a food stabilizer, defoaming agent, flavor dispenser, and to prevent bloom in chocolate

Storage: tight container

See Part 2: Antioxidant Mixtures

sorbitol



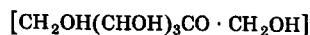
A six-carbon alcohol found in food; used in ascorbic acid fermentation and to sweeten diabetic food; 60% as sweet as sucrose. Used as a texturizing agent, sequestrant, humectant, to thicken candy, and to inhibit crystallization of sugar; in large quantities it has a laxative effect. Occurs naturally in *Pyrus aucuparia*

Storage: tight container

sorbitol agar *See Part 2: Microorganism, Media*

702 sorbose (ketohehexose)

sorbose (ketohehexose)



A six-carbon sugar used in manufacture of ascorbic acid and in special diets

sorghum (brown corn; dura; erron; *Sorghum bicolor*; *S. vulgare*)

Size: 1–5 meters tall (15–30 joints)

Growth period: average 110 days

Use: human and animal food, molasses, alcoholic beverages, bread, porridge; flour used for mush, pancakes, pudding, and wheat flour additive

Types:

Broomcorn—panicle used to make brooms

Grain sorghum—livestock and human consumption; seeds thresh clean; more grain in relationship to vegetative part than other grain plants

Grass sorghum—posture or green chop (e.g., sudan grass)

Grassy—wild types

Sweet sorghum or sorgos—forage and syrup; seed enclosed by glumes; abundant sweet juice

Seed:

Color—brown, pink, red, yellow, white (white and yellow preferred for human food)

Shape—roundish ovoid to flat

Size—45–60 per gram

Texture—chalky, flinty

Drought tolerant

Weight:

1 bushel = 56 pounds

1 bushel in head = 80 pounds

Feed value compared to corn at 100%:

Poultry and swine—95–98%

Cattle and sheep—85–90%

14.9 megajoules per kilogram edible energy value See **sorghum grain**

See Part 2: Sorghum Diseases; Sugars and Sweets Composition

sorghum beer A clear, sour, thick, mildly alcoholic beverage fermented from sorghum or millet or sometimes maize or banana

sorghum, distillers grain

Composition (dehydrated): dry matter 94%; protein 32%; fiber 12%; fat 9%; ash 3.6%

sorghum grain (grain; gyp corn; higear; kafir corn; millet; milo maize; *Holcus sorghum*; *Sorghum vulgare*) Milo maize, kafir corn, and maize are often applied to sorghum but are misnomers. An annual grass plant that can be used for grain (small, oval, pointed, black, or brown), syrup, silage, and food. It includes basic groups in U.S.: chicken corn (now considered a weed), durra, feterita, guinea corn (no longer used), hegari, kafir (most popular) and kaoliang, milo (most popular), and shallu

Hybrids:

Maturity class	Series
Earlier Than Norghum	300
Norghum	400
Rilance	500
Martin	600
Plainsman	700
Dwarf kafir 44-14	800

Series 500 and 600 are major grain sorghum areas. Grain can be wet-milled (starch, edible oil, and gluten feed) or dry-milled (flour and a number of industrial products).

Approximate nutrient used for:

	40 bushels of grain	2 tons of fodder
N (lb)	33	41
P ₂ O ₅ (lb)	20	13
K ₂ O (lb)	7	63

Sudangrass: 40–50 lb/bu; plant 25–40 lb/acre

Grain: 56 lb/bu; plant 5–8 lb/acre

Forage: 50 lb/bu; plant 5–10 lb/acre

Composition	Grain (<i>Sorghum bicolor</i>)	Grain kafir (<i>S.b. coffrorum</i>)	Grain milo (<i>S.b. subglab-rescens</i>)	Heads milo (<i>S.b. subglab-rescens</i>)
Dry matter (%)	89–90	89	89	90
Protein (%)	10.2–11	11	10	9
Fat (%)	2.7–2.8	2.8	2.8	2.6
Fiber (%)	2.2–2.4	2	2.2	8
Ash (%)	1.8–2.1	1.6	1.6	4.9

Lysine is the first limiting amino acid and threonine is the second; grain storage 12% moisture; pH 5–5.5. Starch is of the waxy (devoid of amylose) type. Feeding value similar to corn; deficient in lysine; devoid of carotenoid pigments and vitamin A precursors; high in niacin. When priced 95% or less than corn per hundredweight it is a good buy.

Process for feeding:

Swine and sheep:

Cracked

Ground

Rolled

Cattle:

Flaked

Steam rolled

Pastured secondary growth can cause prussic acid (HCN) poisoning.

Other uses:

Food—dextrose; substitute for tapioca

Industrial—alcohol; building material; adhesives

See **millet; sorghum**

See Part 2: Cereal Composition; Cereal Fortification; Cereal Nutrient Content; Cereals, Vitamin and Mineral Content; Nutrients in Crops; Poisonous Plants; Seed, Chemical Composition; Seed, Germination; Sugars and Syrups Composition; Sweetness of Sweeteners; Sweetening Agents

sorghum midge (*Contarinia sorghicola*) An insect that attacks sorghum

sorghum syrup (sargo; sorghum molasses) Made by concentrating juice of sugar sorghum (*Sorghum bicolor*). Juice is squeezed from stalk and heated over a slow fire for concentration; during heating, protein and green coloring matter rise to the surface and are skimmed off. Peculiar favor

1 cup, sugar

= 1 cup, sorghum syrup – $\frac{1}{4}$ cup, liquid

Maximum 30% water; max. $6\frac{1}{4}\%$ ash (dry wt basis); 36% sucrose; 27% glucose

$1\frac{1}{3}$ cups = 1 pound

1 cup = 330 grams (11.6 ounce)

sorghum webworm (*Celama sorghiella*) An insect that attacks sorghum

sorgo See **sorghum syrup**

soria A goat's milk cheese

sorosis See Part 2: Fruit Classification

sorrel (herb **patience**; **patience dock**; **sour grass**; **sourock**; *Rumex acetosa*) 1) A perennial vegetable or herb with arrow-shaped, slightly acid (oxalate of potash) leaves that are used fresh as greens, salads, in soups, and cooked like spinach; similar to dock; reddish in color.
Variety
French broad leaf
French sorrel (*R. scutatus*; *R. montanus*)—less acid; mildest
Garden sorrel (*R. scutatus*)
Spanish dock (garden patience; monks rhubarb; *R. patientia*)
Wood (*Oxalis acetosella*) or mountain (*Oxyria digyna*)—strongest
2) A rum liqueur or nonalcoholic beverage flavored with sorrel flowers (*Rumex*)
See Part 2: Organic Acids in Fruits and Vegetables; Planting Density; Vegetable Plants

sorrel, French (*Rumex scutatus*) A perennial herb whose fresh leaves are used in greens, as spinach, and in soup See **sorrel**

sorrentini A small, provolone-type cheese made from cow's milk

sorrento A medium to coarsely chopped, uncooked, unsmoked, American sausage that is fermented and/or dry or semidry and available in links, rings, or large diameter casings

sorte maggenga A parmesan cheese

sorte vermenga A parmesan cheese

sosisser A moist, cooked, unsmoked Norwegian sausage made from finely chopped, mildly seasoned beef, pork, and veal sausage and stuffed into sheep casings

soso shosha A Japanese trading company

souari nut (butter nut; guiana nut; paradise nut; swarri nut) A rich-flavored, South American nut in a thick woody shell

soubressade A semidry, uncooked, unsmoked French sausage made from medium chopped, heavily seasoned, beef and pork and fermented and stuffed into beef or pork casings

soufflé A fluffy beaten egg-white dish similar to an omelet except it uses a white sauce base and cheese or vegetables or ground meat as flavor and is usually baked in a 350°F oven. Usually a dessert but there are meat (also fish and poultry) and vegetable types. Puff, whip, and gelatin-based desserts are also referred to as soufflé; a fluffy sherbet with eggs (2 per gallon); a light pudding; made light by beating and cooking

soum A clear, mildly alcoholic, sorghum beer

soumaintrain A muenster-type cheese made from cow's milk; a soft, yellow cheese made from cow's milk and with an orange rind

soumbala A type of dawadawa

soumbara A type of dawadawa

sound Free from disease and with no abnormality of structure that will interfere with usefulness

soundness Healthiness of animal or some part of animal; performing properly

sound, velocity In dry air at 0°C and 1 atmosphere the velocity of sound is 33,136 centimeters per second or 1,089 feet per second

soup A liquid food made by boiling meat and/or vegetables in water with various seasoning agents, broth; a creamed soup also contains fat, flour, and milk.
Classes:
Clear—cold; hot; jellyed; liquid
Thick—not pureed; pureed or creamed
Types:
Thin clear soup—stimulates appetite
Bouillon
Broth
Chicken
Consomme
Fruit
Julienne
Thin light cream soup
Cream of asparagus
Cream of celery
Cream of lettuce
Cream of pea
Cream of tomato
Cream of watercress
Heavy thick soups
Bisques
Chowders
Fish soup
Mulligatawny
Pepper pot
Scotch broth
Vegetable soup
Jellied soup
Other type classifications:
Chicken
Clear
Combinations
Meat
Vegetable
Procedure:
Cut meat into small cubes
Brown (unless white soup stock is desired) $\frac{1}{3}$ of meat cubes at a time; add water to dissolve brown matter; add broth liquor and browned cubes to cold water
Soak $\frac{1}{2}$ –1 hour in cold water
Simmer 3–4 hours with bone and fat
Vegetables are added in last hour of cooking
Pour through colander
Cool and remove fat from top
Clarify if desired, with one egg white and one crushed shell per quart of broth, heat to boiling and strain through several thicknesses of cheese-cloth
See Part 2: Portion Size; Soups, Composition

soup bone A bone used in making soup

soup, dehydrated Soup, quick dried to preserve flavor

soupin shark (*Galeorhinus galeus*) A food fish
See **shark**

704 soup macs

soup macs Pasta

soup stock A concentrated solution in which meat (beef, chicken, fish, pork) has been stewed

soupy Undesired dilution; too much liquid

sour 1) An acid flavor; a taste sensation of tart or acid; fermented. 2) Spoiled; distasteful or unpleasant such as spoiled, rancid, or below standard. 3) An alcoholic drink made by shaking ice with $\frac{3}{4}$ oz ($\frac{1}{2}$ jigger) lemon juice, 1 tsp sugar and $1\frac{1}{2}$ oz (1 jigger) bourbon, rye, applejack, brandy, gin, or rum and straining into a glass and adding a cherry or orange slice on rim

sour cherries See **cherry**

sour cream A cultured cream product made by adding *Streptococcus lactis* (lactic acid-producing) and *Leuconostoc citrovorum* (flavor) to pasteurized coffee cream (light cream). A viscous, thick, high-fat, cow's milk cream that is fermented or has lactic acid added. USDA grade is "Quality Approved" (good quality and manufactured in a clean plant)

1 cup = 8 ounces

Composition (cultured): moisture 70–71%; protein 3–3.4%; fat 18–21%; carbohydrate 4–4.4%; fiber 0%; ash 0.6–0.8%

1 tablespoon = 25 calories

See **sour cream, acidified**

See Part 2: Cultured Dairy Products, Composition; Fluid and Fermented Milks, Composition; Sour Cream Dressing

sour cream, acidified Sour cream made by adding food grade acid to light cream instead of a bacterial culture; same degree of wholesomeness

sour cream dip

1 serving = 1 ounce

sour cream, imitation (nondairy)

Composition: moisture 71%; protein 2.4%; fat 19.5%; carbohydrate 6.6%; ash 0.3%

sour cream sauce

Composition	Dehydrated	Prepared with milk
Moisture (%)	1.6	69
Protein (%)	15.7	6.1
Fat (%)	31.4	9.6
Carbohydrate (%)	48.3	14.4
Ash (%)	3.0	1.2

sourdough bread An acid-tasting, fermented, aerated bread made from rye, wheat, or mixed flour

sour grass See **sorrel**

sour half and half Made like sour cream except half-and-half is the starting product; low-fat, sour cream.

Composition (cultured): moisture 80%; protein 2.9%; fat 10.5–12%; carbohydrate 4.3%; ash 0.7%

sour, half and half, acidified Sour half and half, made by adding good grade acid, to half and half, instead of a bacterial culture

souring (milk) The action induced by bacteria on lactose (milk sugar), producing lactic acid, which gives the sour taste and causes coagulation (curd formation). Optimum temperature for souring is 40°C

1 cup, sour milk

= $1\frac{1}{3}$ tbsp, vinegar + 1 cup, sweet milk

= $1\frac{1}{2}$ tbsp, lemon juice + 1 cup, sweet milk

= $1\frac{3}{4}$ tsp, cream of tartar + 1 cup, sweet milk

= 1 cup, buttermilk

See also **curd; lactic acid; whey**.

sour mash A type of fermentation used in the manufacture of whiskey in which the yeast is obtained from "spent" beer (beer from which alcohol has been removed by distillation). It is slower (72 hours) than sweet mash and yields less whiskey, but has a distinctive flavor

sourmilk Yogurt

sour orange (Seville, bitters; *Citrus aurantium*)

An orange that has a bitter taste and is used to make marmalade; also has been used for root stock for other citrus plants See also **citrus fruit**

sour pickles Cucumbers are cured in salt brine 4–6 weeks, desalted with hot water, and placed in pure distilled vinegar with spices

Types: chow chow, mixed sour, sour relish, whole sour

See **chow-chow**

sour rot 1) Decomposition of eggs in which the egg white becomes thin and yolk thickens; when broken, the egg has an ammonia odor. 2) Rot of ripe or overmature citrus fruit in storage or transit caused by the soil fungus *Geotrichum candidum* L. k. ex Pers., formally called *Oospora citri-aurantii* or *Oidium citri-aurantii*. Symptoms are: slightly raised, water-soaked spot that is buff-yellow colored; later a water-soaked layer of compact cream-colored growth develops on the surface. The tissue is very sour smelling. Storage below 40°F retards growth

soursop (guanabana; *Annona muricata*) A small, tropical American tree that produces a large, pear- or kidney-shaped, rough fruit with short soft spines and acid flavor (custard apple) that is used in drinks and sherbet See **annonaceous fruit; custard apple**

See Part 2: Fruit Classification; Fruit Composition

sour-sour See **masha**

souse (sulz; sulze) 1) A jellied product made from pork (cheeks, feet, heart, shoulder hocks, skin, snouts, and tongues); vinegar and commercial gelatin are added and it is then cooked. A coarsely chopped to chunked, cooked, unsmoked, American, jellied and/or specialty sausage available in links, loaves, or canned; similar to head cheese; often contains dill pickles, sweet red peppers, and bay leaves. 2) To immerse, steep, or soak in a liquid

See Part 2: Sausage, Types

sousing Marinating and cooking in salt, vinegar, and spices, often used for fish

South American braided A golden, braided, sheep's milk cheese

Southdale A breed of sheep originated by USDA by crossing Southdown and Corriedale

South Devon A dual (beef and milk) purpose (Devon in contrast to South Devon is primarily beef), medium red cattle developed in southwest England

Weight:

Bulls—2000–2800 pounds

Cows—1500–1600 pounds

Southdown A medium-wool, mutton-type breed of sheep that originated in southeastern England from native Sussex sheep; face is brown to gray-brown in color; body is small and compact; no horns; fleece grades from $\frac{3}{8}$ to $\frac{1}{2}$

See Part 2: Sheep Breeds

Southern Comfort A trade name for a high alcoholic, peach- (*Prunus persica*) flavored liqueur

southern corn rootworm An insect that bores into corn stalks just below the ground; bud of young plant wilts; worse after a heavy green manure crop

southern flounder A white meat, very light delicate flavor, finfish

southern pea (*Vigna unguiculata*) Used as fresh-shelled peas or mixed with immature pods and as dry peas See **cowpea**; **pea**; **pea, black eye**

See Part 2: Vegetable Composition, Part I

southernwood (lad's love; old man; *Artemisia abrotanum*) A perennial herb with sweet foliage that is sometimes used to flavor beer; plant whose leaves are used in salads or eaten cooked

south sea island tea See **yapon**

southwestern corn borer (*Diatraea grandiosella*) An insect that attacks grain plants

soutjoukia A dry or semidry, cooked, unsmoked Greek sausage made from coarsely chopped, heavily seasoned lamb sausage and fermented and stuffed into sheep casings; eaten after cooking in sheep fat

sovetskii A 12–15-kg, brick-shaped, Swiss cheese made from cow's milk

sow 1) A female hog that has or soon will farrow a litter of pigs. Average gestation period: 114 days (range 110–120); average duration of heat 2–4 days; normal recurrence of heat 21 days. 2) To scatter seeds; to plant

See Part 2: Liver; Swine Market Classes and Grades

sowans A sour (buttermilk, milk, or yogurt) oatmeal and husk gruel

sow thistle See **milkweed**

Soxhlet A device used for extraction in chemical laboratories

soy See **soybean**; **soy sauce**

soya See **soybean**

soybean (boyabeen; Chinese pea; Lincoln bean; Manchurian bean; soja bean; soy; soya; soyabeen; *Glycine max*; *Soja hispida*; *S. max*) Origin eastern and southeastern Asia. An annual leguminous herb of the pea family grown for its oil (20%) and protein content (40%). It contains a trypsin inhibitor that is inactivated by heat. Contains 25% carbohydrate. Pods are straight or slightly curved, straw, gray, brown, or nearly black in color and contain 1–7 seeds per pod, which are small, round to oval or elliptical, white, yellow (most popular), brown,

green, black, black and green, and black and yellow. Used for hay, flour, meal, oil, soy sauce, meat substitutes, and young bean sprout (2–3 inches long). Plant in rows 30–60 pounds per acre; drilling 90–120 pounds per acre; 110 to 130 days to maturity. Nitrogen fixing bacteria *Rhizobium japonicum*

Forms:

Fresh green—vegetable; some varieties are suitable for human food

Canned green

Coffee substitute

Curd—prepared from soy milk; canned, fresh, instant

Dry—roasted

Flour—defatted, full fat

Green manure—soy plant

Grits

Isolate

Mash or pulp—solid left when making soy milk

Milk—made from dry beans; beverage

Oil

Protein concentrate

Sauce—fermented

Sprouts—salad vegetable

Textured protein

Garden type—harvest green bean like lima; roast dried beans like peanuts

Edible type—2–3 oval-shaped, green beans per pod; can be frozen or canned

Vegetable soybean varieties—bean color yellow, green, black and green, black and yellow

Soybean, human food variety	Pod	Bean	Use	Season (days)
Fiskeby V	3 in.	2–3 per pod	Garden	Early, 70
Frostbeater		3 per pod, cook to slimy green	Green shell, dry beans, sprouts	Early, 75
Giant Green				
Kanrich			Garden	103
Prize	2–3 per pod, oval, bright green		Green shell, freeze, canned, dried, sprouts	85

Other varieties: Dorman, Jackson, Laredo, Lee, Ogden, Ottolan, Roanoke, Wabash

Parts of plant used for:

Dried bean—vegetable, human food

Fermented bean—vegetable, human food

Flour—baking

Fresh bean—vegetable, human food

Milk (extracted from seed)—cooking

Oilseed cake—livestock feed

Soy plant—livestock feed

Soy sauce—flavoring

Young bean sprouts—vegetable, human food

Harvest hay when beans are fully developed and lower leaves yellowing. Green beans are difficult to remove from pod unless they are boiled (10 minutes) or steamed (4–5 minutes) to facilitate shelling

	Composition					
	Moisture (%)	Protein (%)	Carbohydrate (%)	Fiber (%)	Fat (%)	Ash (%)
Cotyledon	moisture-free	43	29		23	5
Dry seed	10-12	34-40	33-34	5-5.3	13-26	4-5
Hull (8%)	moisture-free	9-11	85	36	1-2	4-4.5
Hypocotyl (2%)	moisture-free	40	44		11	4
Raw seed	69	11	13		5	2

To soak dry beans: 3 cups of water to 1 cup of dried beans

1 bushel = 60 pounds (lb)

1 quart = 1.8 pound (lb)

1 lb = 2 cups

1 cup = 210 grams (7.4 ounces)

1 cup, dried = 2.5-3 cups, cooked

Storage: maximum of 10% moisture

See Part 2: Beans Dry, Cooking; Minerals, Food; Nutrients in Crops; Oils, Seed and Fruit; Plant Foods, Composition Planting Density; Pulses, Nuts and Seeds Composition; Seed, Chemical Composition; Seed Composition; Seed, Germination; Soybean Composition; Sugar, Legumes; Unsaponifiable Matter; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Plants; Vegetable Yields; Wastes, Agricultural and Industrial

soybean curd A cooked, curdled, soft, firm, soy bean product prepared from soy milk; may be obtained fresh, canned, or as an instant powder

$1\frac{1}{2}$ cakes ($2\frac{1}{2} \times 2\frac{1}{2} \times 1$ inch)

= 1 cup of $\frac{1}{2}$ -inch cubes

10 ounce, can (drained weight)

= 2 cups, of 1-inch cubes

Storage: cover with water (change daily) and refrigerate; will keep for several days

See **tofu**

soybean, dry

Drying:

Pick when mature and spread in warm, dry place until dry or after pods are ripe pull and dry bean plants like hay

Protection after drying:

Refrigerate at 0°F or lower for 4 days or heat in oven at 180°F for 15 minutes and leave in oven for 1 hour with heat turned off

Soak: 4 cups of water and 1 cup of dry beans. Boil 2 minutes, removed from heat, let stand for 1 hour, or boil for 2 minutes and refrigerate overnight

Boil: soak, add 1 tablespoon salt per cup of dry beans, cover, and simmer 2-3 hours

1 cup, dry beans = $2\frac{1}{2}$ cups, cooked

Storage (dry beans): cool (32-40°F), dry place; storage life is many years

Storage (cooked beans): cover, refrigerate for 1 week

soybean, edible Used like green bean when immature; dry beans used like limas; 200 seeds per ounce

soybean, field type Smaller and less mild than vegetable type; used for oil and commercial flour production

soybean flour (soya flour; soy flour) Flour made from soybeans. A high-protein, low-carbohydrate flour (100 mesh or finer) made from ground, dried soybean meal; lacks gluten-forming properties. Usually mixed up to 20% with wheat flour to make baked products.

Types:

Full fat—soybean ground with only hull removed

Low fat—made from presscake from removal of oil

Defatted—fat has been removed by hexane extraction

Used in baking:

Browns quickly

Finer texture

Increases moisture

Increases tenderness

Keeps baked products from becoming stale

Reduces fat absorption

Richer color

1 cup, defatted, stirred = 3.6 ounces (oz)

1 cup, low fat, stirred = 3.1 oz

1 cup, full fat, stirred = 2.5 oz

Composition	Defatted	Full fat	High fat	Lecithinated	Low fat
Moisture (%)	5-9	5-8	6	6-8	5-6
Protein (%)	47-54	37-46	46	40-45	46-52.5
Fat (%)	0.9-1.5	20-22	14.5	14-18	4-6.5
Carbohydrate (%)	36-38	30	28	29	31-36
Ash (%)	5-7	5-5.2	5.5	5-7	5.2-6
Crude fiber (%)	2-4	2.1	2.5	2-4	2.5-3

Storage: cool, dry place

soybean, fresh

Vegetable type used—larger and milder than field type

Pods—bright green; plump; two beans; fuzzy surface; pods not edible

Shell—cover with boiling water and let stand for 5-10 minutes; 1 pound, in pod = $1\frac{2}{3}$ cups, ready to cook beans

Cook—2 cups beans, 1 cup boiling water, $\frac{1}{2}$ teaspoon salt; cook 10-20 minutes

15 oz can, drained = 2 cups

Storage: only if you must; refrigerate, covered container; blanch and freeze in meal-size portions

soybean grits (soya grits; soy grits) A cooked, mushlike product made from soybean presscake (usually made in defatted form). Similar to soy flour but more coarsely ground.

Particle size	U.S. screen mesh
Coarse	10-20
Medium	20-40
Fine	40-80

1 cup, high fat = 4.9 ounces

Storage: after opening, cover tightly and store in a cool, dry place

See also **grits**

soybean hay

Composition (dry hay): moisture 11%; protein 15.4%; fiber 22.3%; nitrogen-free extract 39%; fat 5%; ash 7.2%

soybean meal Ground presscake (oil-free) made from the cotyledons of the soybean; used as cattle feed and fertilizer (7-1.2-1.5)

1 bushel = 48-50 pounds (lb)

1.28 lb, soybeans = 1 lb, soybean meal

1 quart = 1.4 lb

41, 44, or 49% protein meal

Composition	Seed, mechanical extracted	Seed, solvent extracted	Seed, with-out hulls, solvent extracted
Dry matter (%)	90	90	90
Protein (%)	43	44-45	50
Fat (%)	5	0.5-1.2	0.9
Carbohydrate (%)		33	
Fiber (%)	6	5.8	3.4
Ash (%)	6	6-6.3	5.8

See Part 2: Oil Meals Composition

soybean mash (soybean, pulp) Solid material remaining after making soybean milk. Must be heated thoroughly (1 hour over boiling water in a double boiler) to remove beany flavor and prevent spoilage. Add 1 teaspoon salt, cool and refrigerate. It has a bland flavor and coarse texture.

1 pound, bean prepared for milk = 1 quart mash

soybean milk Extract of soybean used for people allergic to cow's milk

Composition	Dry	Liquid
Moisture (%)	4	92
Protein (%)	42	3.5
Fat (%)	20	1.5
Carbohydrate (%)	28	2
Ash (%)	6	0.5

See **soy milk**

soybean mill feed Soybean hulls used as feed; 13% protein, not more than 32% crude fiber

soybean mill run Soybean hulls used as feed; 11% protein, not more than 32% crude fiber

soybean oil A bland, light to brownish yellow, oil extracted from soybean with hexane or pressure; 5.45 pounds soybeans yields 1 pound soybean oil

Types:

Processed—light color; mild flavor

Unrefined—dark brown color; strong flavor

Composition:

Arachidic—0.2%

Eicosenic—0.8%

Linoleic—51-55%

Linolenic—6-8%

Myristic—0.1%

Oleic—22-29%

Palmitic—10%

Stearic—3%

Properties: acid number 3.50; free fatty acid 0.014%; iodine value 120-141; melting point -16°C; phospholipids 1.8-3.2%; saponification value 185-195; saturated fatty acids 10-18%; sp. gr. 20°/4°C 0.9228; titer 20-27°C; unsaponifiable 0.5-2.0

	Smoke point		Flash point		Fire point	
	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)
Expeller	357	181	564	296	664	351
Extracted, crude	410	210	603	317	670	354
Refined	492	265	618	326	673	356

Storage: store in refrigerator after opening

See Part 2: Fat and Oils, Fatty Acids Composition; Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Free Fatty Acid, Smoke, Flash, Fire Points; Iodine and Saponification Values; Oil or Fat, Characteristics; Oil, Triglyceride Mole Percent Composition; Refractive Indices, Fats and Oils; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Tocopherols; Unsaturated Fatty Acids

soybean paste See **miso**

soybean proteinate Water-soluble soybean protein made by washing precipitated globin (pH 4.6) with water and neutralizing with NaOH and spray-drying; contains no sugar or fiber

soybean protein concentrate A product made from defatted soybean flakes or flour by removing water-soluble sugars. Used as a binder in meat products up to 3.5%

Composition: protein (dry basis) 70-74%; crude fiber 3.6%; fat 0.5%; ash 5.8%

soybean protein isolate A soybean derivative containing 97% average protein on a dry basis (min. 90%). Used as a binder in meat products (up to 2%); insoluble in water at its isoelectric point. Ash 4.5%; sodium 1.7%; crude fiber 0.3%

soybean pulp See **soybean milk**

soybean, sprouts Any dry soybeans (special varieties are also used) can be used to make sprouts

Soak beans overnight in three times their volume of water

Rinse and place in a container that will drain

Place in a cool place

Rinse with cool water four or five times a day

Yields 2-3 inch sprouts in 3-5 days

1 volume, dry beans = 6 volumes, sprouts

1 pound, fresh sprouts

= 4 cups, ready-to-use sprouts

2 cups, raw sprouts = 1 cup, cooked sprouts

708 soybean, sprouts

Storage: rinse with water and place with dampened towel in tightly sealed plastic bag; refrigerate, 3–5 days

soy cheese See **tofu**

soy flour See **soybean flour**

soy jam A flavorful, thick viscous paste made from soybeans, often mixed with other cereals; may be sediment from making soy sauce

soy milk Available in dry, concentrated, and ready-to-use forms.

To prepare 2 quarts of soy milk:

Wash and sort 1 pound (2½ cups) dry beans

Soak in 2 quarts of water overnight or boil 2 minutes and let stand for 1 hour or boil 2 minutes and refrigerate overnight

Drain and discard soaking water

Remove skin if bean mash or pulp is to be used

Use 3 quarts of water and grind beans in blender until very fine (2 minutes)

Strain through two layers of cheese cloth

Boil milk for 30 minutes with stirring

Add 2 tablespoons sugar and 1 teaspoon salt

Cover tightly and refrigerate

Strain milk before use to remove skin

See **soybean milk**

soy milk, fermented Acidic, fermented, low-fat, sweetened, soy milk

soy nut Dry soybeans that have been soaked in water overnight (skins may or may not be removed), cooked 6–8 minutes in deep fat (350°F), and salted

Storage: tightly covered

soy sauce A spicy, sweet, double-fermented and hydrolyzed, clear dark brown, thick, syrupy liquid sauce made from mashed, steamed soybeans, with or without wheat or cereal or starch. This liquid is used as flavoring; an ingredient in Worcestershire sauce

Prepared from: salt, soybean (steamed and mashed), water, and wheat or barley (roasted and pulverized); fermented (rice ferment) 6–18 months and pressed and strained

Types: dark, light

Composition (ready-to-serve): moisture 68%; protein 8.7%; fat 0%; carbohydrate 8.3%; ash 15.5%; sodium 1,029 mg/tbsp (18 grams)

See also **ketjap**; **shoyu**

soy sauce, sweet (ketjap) A sweet, dark, thick, soy sauce used to flavor food

soyu See **shoyu**

spacing The distance allowed between plants in a row or between rows

See Part 2: Acre, Plants; Acre, Trees

spadefish See **paddlefish**

spadic Leaves of the coca shrub (narcotic)

spaeipylsa A dry, uncooked, smoked Icelandic sausage (pepperoni) made from medium chopped, heavily seasoned, beef and pork with pork fat added and fermented and stuffed into artificial casings

spaghetti A mixture of wheat flour and water (sometimes also milk and eggs) that has been dried into a $\frac{3}{32}$ -in. diameter solid rod (0.06–0.11 in. diameter range); pasta; a variation of macaroni; often canned

in tomato-based sauce. May be but seldom is tubular

Other variations:

Elbow spaghetti—1-inch elbow shape, $\frac{1}{8}$ -inch diameter

Fedelini—less than $\frac{1}{32}$ -inch diameter solid rod

Fidelini (fettucelle)—flat strips

Forati— $\frac{1}{8}$ -inch diameter solid rod

Trenette—flat strips half as wide as fidelini

Vermicelli— $\frac{1}{32}$ -inch diameter solid rod (straight or coiled)

Ounces uncooked	Circumference of bundle (in.)	Cups cooked
16	6.5	8–10
12	5.5	6.5–7.5
8	4.5	4–5
4	3	2–2.5

1 pound (lb), dry = 8–12 cups, cooked

1 lb, broken = 4–5 cups

1 cup, broken, uncooked = 2 cups, cooked

1 cup, broken

= 2.5–3.3 ounces (oz) [71–85 grams (g)]

1 cup, cooked = 4.9–5.6 oz (160 g)

Enriched type:

Added	Per pound (mg)
Iron	13–16
Niacin or niacinamide	27–34
Riboflavin	1.7–2.2
Thiamin	4–5

Composition (dry): moisture 10%; protein 12%; fat 1%; carbohydrate 75%; ash 1%. With meat and sauce has minimum of 12% meat; with meatballs and sauce has minimum of 12% meat.

See **spaghetтини**

See Part 2: Cereal Composition; Grain Products Composition; Microwave Processing Time; Minerals, Food; Portion Size

spaghetтини A pasta slightly smaller than spaghetti

spaghetti sauce Made from carrots, celery, cottonseed oil, flour, mushrooms, olive oil, onions, salt, spices, sugar, and tomato puree

Composition	Dehydrated	Dehydrated, with mushrooms
Moisture (%)	3.7	3.0
Protein (%)	6.0	10.0
Fat (%)	1.0	9.0
Carbohydrate (%)	64	49
Ash (%)	25	29

spaghetti squash A football-shaped (approximately 10 × 7 inch), white-skinned, winter squash. The cooked, mild-flavored flesh separates into spaghetti-like strands. See **squash, winter**

spalen (stringer) A very hard, sharp (short maturation), nut-flavored, emmenthaler-type cheese made from cow's milk

Spam A canned, comminuted meat product manufactured by Hormel

span A linear measure of distance

1 span = 9 inches

spanakopita A Spanish, cheese pie

Spanish A Mediterranean class of chickens that lays a white-shelled egg. Variety: White-Faced Black

Spanish brand A high alcoholic spirit distilled from sherry

Spanish cheese A semisoft, mildly acidic, rennet-coagulated, smooth, cheese made from cow's milk

Spanish cream A gelatin, custard (egg-white) whip

Spanish leaves Tart and tangy salad greens

Spanish lime See **mammoncillo**

Spanish mackerel (*Scomberomorus maculatus*) A light meat, more pronounced flavor, finfish used for food See **mackerel**

Spanish olives Green olives stuffed with pimiento

Spanish omelet 1) American version is a mixture of eggs and tomato sauce with onions, green peppers, etc. 2) Spanish version (tortilla) is a mixture of eggs with potatoes, onions, olive oil, and optional ingredients such as mushrooms, spinach, anchovies, etc.

Spanish oyster See **scolymus**

Spanish paprika See **paprika**

Spanish plum See **red mombin**

Spanish potato See **sweet potato**

Spanish salsify See **scolymus**

Spanish sheep Merino sheep

sparen A short-maturation, hard, cow's milk cheese

spareribs Ribs removed from the belly area of a hog (sometimes beef) carcass. Spareribs are $2\frac{1}{2}$ –4% of hog carcass. Sold fresh, pickled, or smoked. 40% bone
See Part 2: Braising Meat; Braising Time; Meat Label; Meat, Servings per Pound; Pork Carcass, Retail Yield; Port Chart; Pork Cookery; Pork, Cooking; Pork, Cooking Methods; Pork Cooking Yield; Pork Cuts; Pork Cuts and Uses; Pork Wholesale Cuts; Pork Yield; Roasting Meat; Roasting, Time and Temperature

sparkling burgundy A coralline-red, dry wine with a vinous flavor but not the robustness of other burgundies

sparkling wine A wine with an excess of carbon dioxide (several atmospheres pressure at room temperature). A gassy (2–4 atmospheres), wine made from grape juice (*Vitis vinifera*); effervescence is due to a second fermentation after bottling and this is caused by adding sugar and yeast at time of bottling

sparling (smelt) A food fish

spastic Exaggerated muscular reflexes resulting in rigidity and spasms

spätlese Grapes gathered later than the normal vintage; they will be riper, and have a higher sugar content. Wines that have body and have a pleasant sweetness

spatula An implement with a thin, flexible blade designed for spreading thick mixtures, turning foods during frying, and detaching baked products from pans. The smaller sizes are used in pharmacies and chemical laboratories, and the larger ones in cooking

spawn Propagating material (made from spores) used by mushroom growers for planting beds

spay (spey) To remove the ovaries from a female animal to prevent conception. Leaves a scar in front of left hip of a heifer

SPCA Society for Prevention of Cruelty to Animals

spearfish (*Makaira* spp.) A saltwater food fish related to the swordfish

spearmint (garden mint; green lamb mint; lamb mint; mackerel mint; pea mint; potato mint) A perennial (80 days); 18 inches tall. A flavoring agent containing carvone, linalol, and pinene obtained from leaves and tops of *Mentha spicata* L. Used to make mint sauce that is served with lamb. Oil of spearmint is distilled from the flowering plants; used for flavoring liquor (e.g., mint julep), confectionery, chewing gum, etc.

80–100 pounds oil per acre

1 part, freeze-dried weight

= 10.5 parts, fresh weight

See Part 2: Essential Oils

spearmint, Scotch (*Mentha cardiaca*) More vigor than common spearmint

spearmint oil A volatile oil obtained by steam distillation of *Mentha specatta* or *M. cardiaca* plants. Used as a spearmint, flavoring agent in food; sp. gr. 0.916–0.934

Storage: full, tight, container in a cool, dark place

spec code See **container specification code**

special dietary use food A food designed to meet the special needs of persons with diet-related diseases

Special K A ready-to-eat cereal; 5.4% sugar; sodium 227 mg/oz

Special Milk Program for Children A program that allows eligible children to purchase milk at a reduced price or receive it free See **Child Nutrition Programs**

special pork trimming Approximately 80% meat and 20% fat

Special Supplemental Food Program for Woman, Infants, and Children (WIC) A program that provides specified nutritious food supplements to pregnant, breast feeding, and postpartum women as well as to infants and to children under 5 years of age, all of which categories are certified as “nutritional risks”

species (both singular and plural) A taxonomic category below a genus and above a variety. The species is the second word used in a scientific name and it is not capitalized; a plant that grows true from seed; a group of potential interbreeding organisms that do not crossbreed with other organisms; a group possessing the same genetic constitution

specification Definition of limits of acceptability

specific deficiency A pathological state due to the lack of a given essential nutrient

specific dynamic action (SDA) Heat produced as the result of food ingestion above the basal heat production

specific dynamic action of foods Energy expenditure required for ingestion and assimilation of food; protein 30%; fat 6%; carbohydrate 4%

710 specific gravity (sp. gr.)

specific gravity (sp. gr.) Ratio of the density of a given substance compared to that of a standard (usually air or water)

$$\text{sp. gr.} = \frac{\text{density of substance}}{\text{density of standard}}$$

The temperature is usually also given; it is often in the form of a fraction; temperature of substance/temperature of standard. Used to determine relative amounts of fat and lean tissue in the body. As fat increases, specific gravity decreases

$$\text{sp. gr.} = \frac{\text{body weight in air}}{\text{body weight in air} - \text{body weight under water}}$$

See Part 2: Brine, Meat Curing; Specific Gravities, Fats and Oils

specific heat The heat absorbing capacity of a substance compared to that of water. The amount of heat expressed in Btu required to raise the temperature of one pound of a substance 1°F, or heat required to raise the temperature of 1 gram 1°C; apparent specific heat = $0.20 + (0.008 \times \% \text{ water})$; specific heat in Btus = apparent specific heat $\times \text{wt in lb} \times \text{temp in } ^\circ\text{F}$; specific heat in calories = apparent specific heat $\times \text{wt in g} \times \text{temp in } ^\circ\text{C}$.

See Part 2: Specific Heat, Meat

specific rotation (α ; [α]_D²⁰) The angle of rotation produced by a cubic centimeter of a material at 20°C using a sodium light

specific volume The volume that 1 gram will occupy at a specific temperature and pressure; reciprocal of density

speck Bacon

speckblutwurst A moist, cooked, unsmoked eastern German sausage made from fine or medium chopped, medium seasoned pork with blood added and stuffed into pork casings

speckle A fungus (*Deightonella torulosa*) disease of bananas that occurs in young green fruit and becomes more numerous with maturity. The spots are round with brown or black centers and green water-soaked halos and affect only the peel. It does not cause decay or affect the ripening or eating qualities

speckled hind See grouper

speckled leaf blotch (*Septoria tritici*) A disease of wheat

speckled trout (brook trout) A food fish See sea trout

speckwurst A cooked sausage containing chunks of fat

spectro grade The designation of a standard of chemical purity; a high grade solvent that will provide low absorption See also grade

spectrophotometric analysis An optical analysis based upon the intensity of light (at known wavelength) transmitted through a sample

spectrum The wavelengths of electromagnetic energy (e.g., radiant energy, light). They range from gamma to radio frequencies See also radiation

See Part 2: Waves, Energy-Producing

speculative purchasing Making provisions for future material requirements before prices increase too steeply

speculaus foot long, gingerbread men

spegepols A semidry, uncooked, smoked Danish sausage made from coarsely chopped, medium seasoned, pork and stuffed into beef or artificial casings; a beef and pork salami

spekeskinke A country ham

spelt A German species of grain; coarse wheat. Intermediate between wheat and barley

spent grain See pomace

spermaceti A liquid, waxy substance obtained from whale and used in soap; used to make bright candles that are used to calibrate candle power, and used for lubricants; iodine number 3–5; saponification number 120–135

spermatogenesis Synthesis of sperm cell in testes

spermatozoa Reproductive cells of the male; present in semen

sperm concentration The number of sperm cells in a given quantity of semen

sperm mobility The movement of sperm cells in a semen sample

sperm oil Oil obtained from the head cavity of the sperm whale. Its use is now prohibited in U.S. See Part 2: Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Titer, Fats and Oils; Unsaturated Fatty Acids

sphagnum peat moss Organic matter used to improve dry, sandy soil; holds up to 15 times its weight in water

sphere (solid angle)

1 sphere = 12.57 steradians

sphingomyelins A phospholipid found in nerve, brain, and heart tissue

sphingosine [$\text{C}_{18}\text{H}_{33}(\text{OH})_2 \cdot \text{NH}_2$] A nitrogenous base

spice A plant (whole, broken, or ground) having a fragrant or aromatic odor and a pungent flavor used to season food; usually contains essential oils. Any dried plant product used for culinary purposes to enhance the flavor and appearance of food; an aromatic substance of vegetable origin used to add color and flavor to food; bark, berry of plants, bud flowers, fruit, leaves, root, or seed usually of tropical origin; some definitions do not include dehydrated vegetable seasonings; often includes aromatic seed, dehydrated vegetables, herbs, true spices, and other dried plant products used as seasonings; some definitions include only tropical plants.

May be dried, used whole, or after grinding

Spice—natural spice

Spice extractives or extractives of spice—oil or oleoresins

Exceptions—celery, garlic, and onion are traditionally regarded as food

Mesh	Numbers
Small or fine	Large
Large	Small

Degree of fineness is specified by screen sizes, e.g., 25/50 means 95% of grains will pass through #25 and 96% of grains will not pass through #50

Storage: cool, room temperature in tightly closed, airtight container See **spice, true**

See Part 2: Flavoring Agents, Natural; Minerals (Trace), Limits; Spices, Microbial Content; Storage, Dry; Storage Times; Vinegar, Spiced; Wastes, Agricultural and Industrial

spice, purified (or sterilized) Treated with ethylene oxide or gamma irradiation. 100 or less total plate count per gram

spice, true Derived from bark, berry, fruit, or root of perennial plants usually grown in tropical zones

spickekorv A dry, uncooked, unsmoked Swedish sausage made from coarsely chopped, heavily seasoned (heavily salted), beef and pork sausage and fermented, and stuffed into beef casings

spicy Flavorful; spice flavor; piquant; aromatic

spider mite 1) An insect that has the following characteristics; less than $\frac{1}{8}$ -in. long; 8 legs; wingless; soft; round body; green, yellow or red color. They suck sap from cotton leaves and produce webbing causing leaves to become yellow or red. 2) Insect that damages tomato plants

Control: dicofol

3) Very tiny, reddish, greenish, or brownish mites that may be found on the underside of fruit tree leaves. They make yellow specks and fine webs on leaves; plants and fruit are stunted.

Control: use a dormant fruit tree oil spray to kill overwintering eggs and reduce population during the next growing season

spignel A celery-flavored herb used in salads and stews

spiked rampion A plant sometimes used in salads

spikekorv A beef and pork chorizo

spike lavender oil A volatile oil obtained by steam distillation of *Lavandula latifolia* flowers. Used as a lavender flavoring agent in food; sp. gr. 0.892-0.910 Storage: full, tight, glass container in a cool, dark place

spikenard A fragrant oil obtained from the root of a valerian plant. Used in perfume and the bitter flavor is used in Malayan cooking

See Part 2: Essential Oils

spinach (calaloo; *Spinacia oleracea* var. *inermis*)

Origin central Asia. An annual whose leaves are used as a boiled vegetable or in salads and soups; can be frozen or canned. Broad, tender, dark green, crinkly leaves that grow in a rosette. 2,500-2,800 seeds per ounce; plant $\frac{1}{2}$ -1 ounce seeds per 100 foot row; 8-14 day germination time; thin to 3-5 inches in rows 12-15 inches apart; matures in 65 days; yield 3 bushels per 100 foot row

For salad it must be washed thoroughly; wilts quickly Available styles: chopped leaf, cut leaf, some with sauces and flavoring, and whole leaf

To cook: steam until wilted

Canned grades:

High—dark green uniform color of leaves, no stalks—some stalks

Low—some stalks and some off-colored leaves

Spinach variety	Leaves	Use	Season
America	Deep green, distinctly savoyed	Will withstand heat, garden	Late spring, early summer, 40-50 days
American Early Hybrid			
Avon Hybrid	Deep green semicrinkled	Raw, boiled	44 days
Bloomsdale Long Standing	Thick, crinkled, dark green, productive	Raw, cooked, most popular	Early spring, main crop, 40-48 days
Bloomsdale Savoy	Dark green and crinkly		
Chesapeake			Fall planting
Crisp n' Tender	Smooth, medium size, dark green	Garden	43 days
Dixie Market			
Early Smooth	Dark green, upright	Canning	
Giant Prickly			Winter
Giant Thick Leaf	Large plant		
Hybrid No. 7			Fall planting, cold hardy
Juliana			
King of Denmark			
Long Standing Bloomsdale			Spring seeded
Melody	Semierect, dark green, semisavoyed, oval shaped	Home garden, raw, cooked, processing, freezing	Spring, autumn, 42-50 days

(Continued)

spirilla (plural of spirellum) A subdivision of bacteria indicating their shape, resembling that of a corkscrew (Latin, coil shaped)

spirit Volatile or distilled liquid or volatile material. High-alcohol beverage made by fermentation and distillation, e.g., brandy, gin, rum, and whiskey

spirit of orange Alcohol containing oil of orange peel

spirit of turpentine A volatile oil of turpentine *See also* gum spirits of turpentine; wood turpentine

spirit of wine Ethyl alcohol solution

spirit vinegar Distilled vinegar *See* distilled vinegar

spirochetes Corkscrew-shaped microorganisms

spit A skewer on which meat is placed and rotated while roasting

spittle bug A wedge-shaped insect with brown or gray markings that can jump or fly quickly when disturbed. The young are pinkish, orange, yellow, or yellowish green, up to $\frac{3}{16}$ inch long and produce masses of white froth or spittle. The young damage the plant (hosts: over 400 species of plants) by sucking juices from buds, shoots, and nut clusters, which reduces yield and causes stunted berries (e.g., strawberries)

Control: insecticide

spitzkäse A low-fat, high-protein, roll or bar-shaped, semisoft cheese made from cow's milk with caraway seed and surface smear

spleen (melt; milt) A highly vascular, ductless, purple gland near the gullet end of the stomach. It is concerned with maintenance of blood (disintegrates red blood cells and liberates the hemoglobin) and formation of lymphocytes. Used as food and is part of haslet

See Part 2: Gland Weights; Organ Weights

splenius A triangular muscle in the neck area that lies dorsal and lateral to the complexus

splint A bony growth occurring on the cannon bone

split delivery A method by which a larger amount is ordered on a purchase order to secure a lower price but delivery is spread out over time to control inventory investment

split items Different items manufactured simultaneously by the buyer

spoilage Unwholesome; unsalable; decay; loss of valuable qualities; rancidity; rot

See Part 2: Canned Spoilage Manifestations; Canned Spoilage Related to pH; pH, Post Mortem; Rot Spoilage; Spoilage, Carbohydrate Foods; Spoilage, Fat in Food

spondias *See* ambarella

sponge 1) The fibrous skeleton of *Euspongia officinalis*. 2) Gelatin combined with egg white or whipped cream. 3) Dough mixture used in baking; batter containing yeast

sponge cake A light sweet cake made without shortening; air is added by whipping egg whites and yolks to produce the leavening. An unshortened cake containing whole eggs or egg whites, flour, sugar, and salt.

Types:

White or angel food—contains egg whites

Yellow—contains whole eggs

$1\frac{7}{8}$ -inch sector of $9\frac{3}{4}$ -inch round cake
= 145 calories

spongy Loose, open, elastic, porous, spongelike texture

spongy bone tissue *See* cancellated bone tissue

spool joint *See* break joint

See Part 2: Bone Age

spoom Sherbet made with syrup or fruit juices or wine and mixed with a meringue

spoon A concave utensil of various sizes used for eating soup, vegetables, etc.; used for stirring and mixing and for measuring ingredients *See* table-spoon; teaspoon

spoon-billed catfish *See* paddlefish

spoonbread A loaf cornbread that contains cornmeal, milk, eggs, oil, baking powder, and salt
Composition (white, whole cornmeal): moisture 63%; protein 7%; fat 11%; carbohydrate 17%

-spor- An affix that means seed

spore Reproductive element of lower organisms that are in the resting state and are highly resistant to heat and chemicals. Reproductive element of a lower organism; a highly resistant microorganism resting stage that may last for years; they are formed within the cell (endospore)

See Part 2: Sanitizing Chemicals; Thermal-Death-Time Curve; Thermophiles

sporicide A substance that will kill bacterial spores

sporophyte *See* embryo

sport (bud sport) Strains or mutations of a cultivar that have different growth and fruiting characteristics; a mutant, e.g., polled

sportsgrill A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork and not stuffed into casings

sportswiener A moist, cooked, smoked Norwegian sausage made from finely chopped, mildly seasoned beef and pork and stuffed into artificial casings

sposi A soft, cream cheese

spot (goody; Lafayette; *Leiostomus xanthurus*)
A lean fish caught from New Jersey to Florida. A light meat, light to moderate flavor, finfish. Name also given to fish called red drum (*Sciaenops ocellata*) and spottail pinfish (*Diplodus halbrookii*)

spot goods Items actually ready and available for delivery

spotted cabrilla A white, very light, delicate flavor, finfish used for food

spotted catfish *See* spotted wolffish

Spotted Poland China A meat-type, breed of hogs originating in Ohio from the blending of several strains (Bedfordshire, Big China, Big Spotted China, Byfield, Irish Grazer and Russian strains); their color is black and white (20–80% white) spotted and they have drooping ears

See Part 2: Swine Breeds

spotted sea trout A white meat, light to moderate flavor, finfish used for food

spotted trout *See* sea trout

spotted wolffish (*Anarhichas minor*) A food fish

714 spotting

spotting Transplanting small seedlings

spragg Cod between 63 and 76 centimeters in length

sprat (brisling; garvoek; kilkie; stuifin; *Sprattus sprattus sprattus*) A fish related to herring
Europe—*Clupea sprattus*

New Zealand—*Maugeclupea antipodum*

2–4-inch food fish that is available, fresh and smoked

See Part 2: Fish, Storage

spray Liquid applied in small drops, usually mixed with air. Often applied to materials and used to prevent insect damage

spray-dehydrated Material is sprayed on the surface of a heated drum and then scraped off

spray drift Movement of airborne spray from the area of intended application

spray drying A method of drying a liquid–solid mixture, such as milk, by spraying it into a hot, tall chamber; the solids are quickly dried and moisture is removed while the product falls through the chamber

sprayed cracker See Part 2: Fermented Ingredients

spread A soft mixture, often containing cheese, used for sandwiches. Substances usually spread on slices of bread such as butters, jams, jellies, meat spreads, preserves, and sauces See **straddle**
See Part 2: Stabilizers, Thickeners

sprig A small branch

spring See Part 2: Frost Date, Spring

spring cankerworm (*Paleacrita vernata*) A pear-leaf, feeder worm

spring dwarf (*Aphelenchoides fragariae*) A disease of strawberries that is caused by nematodes that live inside leaf buds

Prevention: plant stock that is free of dwarf nematodes

springer That which is a source of supply: 1) Young plants. 2) Due to freshen (usually cow). 3) Salmon that has finished a run. 4) A defective tin can. 5) Various animals See also **fryer**

springerle A cookie with raised designs

spring lamb Lamb under one year of age; between lamb and yearling in age. 1) Genuine spring lamb (milk lamb) are lambs fattened on mother's milk. They are marketed April–July and are 3–5 months old. 2) Spring lamb (grass lamb) are fed on grass and grain and marketed in fall and winter and are 5–10 months old

spring onion The name applies to various types of onions: scallion, shallot, and welch onion. Seedling pulled before they bulb

spring salmon See **salmon**

spring wheat Wheat planted in the spring and harvested in the fall

springy Elastic, surface texture

sprinkle To apply in small particles

spritzig A nonsparkling wine that tastes effervescent; white, slightly effervescent wine. A natural effervescence of wine

sprout 1) A young growing shoot or bud. Isopropyl *N*-(3-chlorophenyl) carbamate is used to inhibit sprouting in potatoes. 2) Pea or bean, white or yellow; tender sprouts are used as food

See Part 2: Vegetable Composition; Vitamin A, Food

sprout-depressing See Part 2: Radiation Preservation

SPS agar A medium used to grow *Clostridium perfringens*

See Part 2: Microorganism, Media

spud 1) Bread boiled in oil. 2) Slang for potatoes

spumante A white, sparkling wine

spumone (spumoni) A light, foamy, neapolitan ice cream, often flavored with vanilla, chocolate, and strawberry and/or pistachio with fruit and/or nuts
See **spumoni**

spumoni Ice cream containing nuts and fruit See **spumone**

spur 1) A sharp spine on the wings and legs of some birds. 2) A projecting root or branch of a plant

spur blight A fungus (*Didymella applanata*) disease that effects red raspberries in northern U.S. Brown or purple spots appear at nodes and at buds and tissue around the buds darkens and shrivels. Later the bark splits and black pimplelike structures appear. No fruit is produced as a result.

Control: Remove infected canes and use control sprays recommended for anthracnose

spurdog A food fish See **dogfish**

spur, renewal Canes pruned to two or three buds

spur-type tree Smaller and less vigorous than a normal tree with shorter stems, leaves closer together, and more spurs on which fruit is produced

SQC Statistical Quality Control See **statistical quality control**

squab Young poultry, particularly pigeon, that has never flown. Young (less than 4 weeks) pigeon weighing 0.5–1 pound; often less than 14 ounces; dressed weight is approximately 12 ounces; flesh is light colored and tender

Composition (flesh and skin, raw): moisture 56.60%; protein 18.47%; fat 23.80%; ash 1.40%; total carbohydrates 0%

See **pigeon; poultry grades**

See Part 2: Animal Foods, Composition

squab broiler A small (1–1½ pounds) size broiler (chicken)

square Square-shaped pasta (¼ inch)

square centimeter (cm²) A measure of area

1 cm² = 197,300 circular mils
= 100 square millimeters (mm²)
= 0.1550 square inch (in.²)
= 0.001076 square feet (ft²)
= 0.0001196 square yards (yd²)
= 10⁻⁴ square meters (m²)
= 3.861 × 10⁻¹¹ square miles

square chain A measure of area

1 square chain = 16 square rods
10 square chains = 1 acre

square cut shoulder A shoulder cut of meat with shank and neck removed. Difficult to carve because of odd-shaped bones

square degree

1 square degree = 0.00030462 steradians

square foot (ft²) A measure of surface area

1 ft² = 1.833×10^8 circular mils
 = 92,900 square millimeters (mm²)
 = 929.0 square centimeters (cm²)
 = 144 square inches (in.²)
 = 0.1111 square yard (yd²)
 = 0.09290 square meter (m²)
 = 0.00002296 acre (A)
 = 0.000009290 hectare (ha)
 = 0.0000009290 square kilometer (km²)
 = 0.0000003587 square mile (statute)
 9 ft² = 1 square yard

square inch (in.²) A measure of surface area

1 in.² = 1.273×10^6 circular mils
 = 1×10^7 mils
 = 645.2 sq millimeters (mm²)
 = 6.452 square centimeters (cm²)
 = 0.006944 square foot (ft²)
 = 0.0007716 square yard (yd²)
 = 0.0006452 square meter (m²)
 = 0.000001594 acre (A)
 = 0.0000006452 hectare (ha)
 = 0.00000006452 square kilometer (km²)
 = 0.00000002491 square mile (statute)
 144 in.² = 1 square foot (ft²)
 0.155 in.² = 1 square centimeter (cm²)

square kilometer (km²) A measure of surface area

1 km² = 1×10^{10} square centimeters (cm²)
 = 1.550×10^9 square inches (in.²)
 = 10,763,867 square feet (ft²)
 = 1,195,985 square yards (yd²)
 = 1,000,000 square meters (m²)
 = 247.104 acres (A)
 = 100 hectares (ha)
 = 0.38610 square mile (statute)

square meter (m²) A measure of surface area

1 m² = 1×10^6 square millimeters (mm²)
 = 10,000 square centimeters (cm²)
 = 1,549.99 square inches (in.²)
 = 100 square decimeters (dm²)
 = 10.7639 square feet (ft²)
 = 1.19599 square yards (yd²)
 = 0.0002471 acre (A)
 = 0.0001 hectare (ha)
 = 0.000001 square kilometer (km²)
 = 0.0000003861 square mile (statute)

square mil A measure of surface area

1 square mil = 1.273 circular mils
 = 6.452×10^{-6} square centimeters (cm²)
 = 1×10^{-6} square inches (in.²)

square mile (statute) A measure of surface area

1 square mile = 27,878,400 square feet (ft²)
 = 3,097,600 square yards (yd²)
 = 2,589,999 square meters (m²)
 = 102,400 square rods

1 square mile = 640 acres (A)
 = 259,000 hectares (ha)
 = 2.59000 square kilometers (km²)

square millimeter (mm²) A measure of surface area

1 mm² = 1,973.5 circular mils
 = 0.01 square centimeters (cm²)
 = 0.00155 square inches (in.²)
 = 0.00001076 square feet (ft²)

square perch See square rod

square rod A measure of surface area

1 square rod = 625 square links
 = 272.25 square feet (ft²)
 = 30.25 square yards (yd²)
 = 25.29 square meters (m²)
 = 1 square perch
 = 1/160 acre
 160 square rods = 1 acre
 40 square rods = 1 rood
 = 1/4 acre

square root The factor of a number, which if squared will yield the number. To determine (long hand):

Start at decimal and mark off every second place on both sides of decimal

Start with one or two numbers to the left of the last mark on the left

First number of answer is the largest square root that will go into this number

Write this number squared under the number and subtract

Bring down the next two numbers

Multiply by 2 the number(s) in the answer to this point and write it to the left of the subtracted answer

The next number in the answer will be determined by dividing the value in the previous step into the remainder. This number is written to the right of the value from the previous step and also in the answer. The number just placed in the answer is multiplied by the new value, and written under the remainder

Subtract and bring down next two numbers and repeat the previous two steps and this step for as many decimals as required

Example: Square root of 20507013.0

$$\begin{array}{r}
 \begin{array}{cccccccc}
 & 4 & 5 & 2 & 8 & 4 & 6 & 7 \\
 \sqrt{20} & 50 & 70 & 13.00 & 00 & 00 \\
 16 & & & & & & & \\
 \hline
 85 & 4 & 50 & & & & & \\
 & 4 & 25 & & & & & \\
 \hline
 902 & & 25 & 70 & & & & \\
 & & 18 & 04 & & & & \\
 \hline
 9048 & & 7 & 66 & 13 & & & \\
 & & 7 & 23 & 84 & & & \\
 \hline
 90504 & & & 42 & 29 & 00 & & \\
 & & & 36 & 22 & 56 & & \\
 \hline
 905680 & & & 6 & 06 & 44 & 00 & \\
 & & & 5 & 43 & 41 & 10 & \\
 \hline
 9056927 & & & 63 & 02 & 84 & 00 & \\
 & & & 63 & 39 & 84 & 89 &
 \end{array}
 \end{array}$$

716 square yard (yd²)

square yard (yd²) A measure of surface area
 1 yd² = 8.36×10^5 square millimeters (mm²)
 = 8361 square centimeters (cm²)
 = 1,296 square inches (in.²)
 = 9 square feet (ft²)
 = 0.83613 square meter (m²)
 = 0.0002066 acre (A)
 = 0.00008361 hectare (ha)
 = 0.000008361 square kilometer (km²)
 = 0.0000003228 square mile (statute)
 30.25 yd² = 1 square rod
 1.196 yd² = 1 square meter (m²)

squash (*Cucurbita maxima*; *C. mixta*; *C. moschata*; *C. pepo*) 1) A climbing herb of the gourd family that produces a pepo that is used as food; there are many varieties of different shapes and colors; they are eaten as cooked vegetables, jams, chutneys, and soups and fermented into wines. Seed 3 pounds per acre; 1 ounce per 100-foot row; space 3 feet between plants in rows 4 feet apart; matures in 60–120 days. Variety of marrows, pumpkins, and gourds:

Autumn and winter (hard rind; *C. maxima*)—marketed when fully mature; large; firm; keeps well; eaten ripe; seeds are removed before cooking (boil and mash or bake until tender); may be canned and frozen similar to pumpkin; cooked and ready to use as a vegetable or pie filling, e.g., butternut, corn

Variety of marrows, pumpkins, and gourds (con-

tinued)

Cushaw (*C. moschata*)

Pumpkin—strong flavor; not used for baking

Summer (*C. pepo melopepo*)—harvested when immature; small; eaten unripe as a vegetable; seeds are cooked with squash. Canned and frozen; small squares cut crosswise, e.g., scallop, zucchini

Seeds may be fried and/or salted and are also a popular food

Plant:

Bush type—three plants per hill with hills 3 feet apart

Vining type—5 feet apart in 6 foot rows

Harvest:

Summer type—rind still soft; 3–7 days after flowering

Scalloped—2–3 inches in diameter

Rest—6–8 inches long

Winter type—may be picked early and treated like summer squash; hard rind; picked after leaves have turned brown; leave 2–3-inch stem

If stem is dark, hard, shriveled, or dry the squash is not fresh. Skin should be glossy and blemish free

Refuse: 50%

1 spaghetti squash = 2–2.5 pounds (lb)

1 medium butternut = 2 pounds (lb)

1 medium acorn = 1 pound (lb)

1 baby golden nugget = 5 ounces (oz)

1 cup, sliced = 0.28 pound (lb)

= 1.5 medium squash

Squash type	Variety	Season (days)	Size and shape	Color		Skin
				Skin	Flesh	
Summer—commonly called squashes but by botanical classification, they are pumpkins; should be used when young and tender and have a soft rind See Pumpkin						
Black Summer Variety						
	Black Zucchini	62	10–12 in. long	Greenish black	White	
Green Summer Variety						
	Ambassador		17 × 8 in., cylindrical	Dark green		
	Aristocrat	42	Cylindrical	Dark green		Smooth
	Caserta		6–7 in.	Gray		
	Clarita		14 in., cylindrical	Cork green, light green striping	Greenish white	Striped
	Cocozelle (Italian Marrow)	60	best when 4–5 in.			
	Elite					
	Greyzini	55	Cylindrical	Light green, dark green flecks		
	Scallopini Hybrid	50	Flattened, fluted, 2–4 in. best	Dark green		Raw; salads; cooked; steamed; fried; baked; boiled
	Seneca Zucchini					
	Zucchini	54	6–7 in., cylindrical	Dark green	White	Smooth; freezing
	Zucchini Hybrids	50	Cylindrical, 6–8 in.	Medium green		Shiny

(Continued)

Squash type	Variety	Season (days)	Size and shape	Color		Skin
				Skin	Flesh	
Summer (continued)						
White or Yellow Summer (bush)						
	Butterbar		Long cylindrical	Yellow		Smooth
	Dixie Hybrid	41	Semicrookneck	Yellow		Smooth
	Early Prolific	50	14 in. × 3.5 in., 4–6 in. best	Yellow		
	Straightneck					
	Goldbar					
	Goldneck	45	Crookneck, 10–12 in. long	Yellow	Yellow	
	Golden Swan		Crookneck			Smooth
	Golden Zucchini	54	Slender cylindrical	Golden		Glossy
	Italian Vegetable (cocozele)					
	Seneca Butterbar	51	Cylindrical tapered at blossom end	Yellow		Smooth
	Seneca Prolific					
	St. Pat Scallop	50–75	Bell, 1.5 in. best		Light green	Shiny
	Vegetable Marrow (cocozele)	70	8 in. best	White		
	White Bush Scallop (Pattypan; Cymling)	54	Flat disk shape, 7 × 3 in., scalloped edge	Greenish white	White	
	Yellow Summer Crookneck	53	5–6 in. best, small curved neck, 10 × 3 in.	Yellow		Warted; freezing
Novelty type						
	Naked seeded pumpkin squash		Pumpkin shape	Yellow, green markings		Flesh not suitable for eating; hulless seed consumed raw or toasted
	Vegetable Spaghetti (winter)	70	9 in. best	Yellow	Yellow	Cook whole for 30 min. in boiling water
Winter—hard rinds; stores well						
Acorn or Danish—small; corrugated						
	Bush Acorn, Table King	75–80	6 × 5 in., 1.25 lb	Dark green	Golden	Glossy; hard shell; keeps well
	Bush Table Queen (Acorn bush)	80	Ribbed, 5 × 4 in.	Green, hard	Orange	Storage
	Royal Acorn	82–90	7.5 × 6 in.	Dark green, orange on storage		Dull
Banana—elongated; tapering at both ends; large fruit; 110 days						
	Alligator		25 × 8 in. 18 lb	Dark green		Smooth; irregular
	Banana (Blue Banana)	115	15 × 6 in.	Greenish gray	Orange	
	Gilmore		15 × 7 in.	Salmon flecked with blue		
	Mammoth Whale		30 × 8 in. 18 lb	Olive green, lighter stripes		
	Plymouth Rock		15 × 6 in.	Greenish gray, flecked with lighter color		
	Winnebago		11 lb	Dark green		Lightly warted

(Continued)

718 squash (*Cucurbita maxima*; *C. mixta*; *C. moschata*; *C. pepo*)

Squash type	Variety	Season (days)	Size and shape	Color		Skin
				Skin	Flesh	
Winter (continued)						
Hubbard—ovoid; pointed at flower end; stem end tapered; large fruit; 110 days						
	Arikara		12 × 9 in., 8 lb	Light salmon, blue gray stripes		
	Autumnal Marrow		Straight ends, 9 × 5 in., 8 lb	Light orange		Pocked
	Blue	120	Slightly ridged, 13 lb	Greenish blue	Orange	Rough hard
	Chicago Warted	115	15 lb	Dark green	Dark golden	Warted hard shell
	Delicious		Top shaped, 8 × 12 in., 8 lb	Dark green, light stripes		
	Golden	90	9 lb	Orange-red, cream colored stripes	Orange	Moderately warted
	Golden Delicious	100	Top shaped, 8 × 12 in., 8 lb	Golden yellow	Orange	
	Green	120	13 lb	Dark green, white stripes	Yellow- orange	Slightly warted hard rind
	Ironclad		15 × 12 in., 16 lb	Silvery gray, light stripes		
	Kitchenette (Baby)	100	5 lb	Dark green		Slightly warted
	Marblehead		Lemon shape, 9 × 12 in., 8 lb	Bluish gray		Bumpy
	Prolific Marrow		Lemon shape, 9 × 4 in., 15 lb	Orange-red		Warted
	Sibley		13 × 12 in.	Slate gray		
Mammoth—large; up to and over 100 lb						
	Atlas		Egg-shaped, 20 × 13 in., 35 lb	Reddish yellow		Grooved
	Estampes (Etampes)		10 × 18 in., 30 lb	Reddish orange, grooves of lighter color		Rough
	Mammoth Chili		12 × 16 in., over 100 lb	Mottled orange and yellow, lighter stripes		
Turban						
	American Bay State		7 × 10 in. 7 × 10 in., 7 lb	Yellow Slate gray		Rough
	Buttercup	105	4.5 × 6.5 in.	Dark green, gray spots, white stripes	Orange	Keeps well
	Essex Hybrid		6 × 9 in., 10 lb	Yellow to orange, sometimes green splashed		
	Turk's Turban Victor		6 × 9 in., 8 lb	Orange-red		
	Warren		8 × 10 in., 15 lb	Orange-red		Warty

Summer:

- 100 lb, fresh = 7-9 lb, dry
 1 bushel = 40 lb
 = 32-40 pints, frozen
 2-4 lb, summer squash in shell = 1 qt, canned
 2-2½ lb, summer squash in shell = 1 quart, frozen
 1 lb, fresh = 3-4 servings
 = 1.7 cups, cooked and mashed
 1 cup, cooked and mashed = 240 gram (8.4 ounces)
 1 medium squash = 1.5 cups, cooked squash
 1 small squash = 1 cup, cut into ¼-inch cubes
 one, 5-inch squash = 100 grams

Winter squash:

- 3 lb, winter squash in shell = 1 quart, frozen
 1½-3 lb, winter squash in shell = 1 quart canned
 1 pound = 2-3 servings
 = 1 cup, cooked and mashed
 1 cup, cooked and mashed = 245 grams (8.6 ounces)

Composition	Seed, dry	Summer	Winter
Moisture (%)	4	94	85-89
Protein (%)	29	1	1.4-1.5
Fat (%)	46	0.1	0.3
Carbohydrate (%)	15	4	9-12
Ash (%)	5	0.6	0.8-1.0

pH 5.0-5.4

Fiber:

- Summer, raw—3%
 Summer, cooked—2.2%

Storage (freezing point 30.5°F):

Summer—gather before seeds ripen or rind hardens; 32-40°F, 85-95% relative humidity; 2 week storage life

Winter—gather only after well mature but before hard frost; store in pits or cold cellars. Low room temperature (50-55°F; 70-75% relative humidity); keeps several months at 60°F; keeps 1 week at higher temperatures

2) Orange drink

See Part 2: Calories, Daily Recommendations; Cucumber Crops, Spacing and Depth of Planting; Frozen Food Storage; Fruit Classification; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Minerals, Food; Nitrate, Vegetables; Plant Foods, Composition; Planting Density; Portion Size; Protein Factors; Pulses, Nuts and Seeds Composition; Riboflavin, Daily Recommendations; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetables, Panned; Vegetable Storage; Vegetable Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields; Vitamin A, Daily Recommendations

squash bug

Eggs: yellow brown to bronze; 1/16 inch long; laid on underside of leaves in clusters
 Nymph: green and red to brown and later to gray

Adult: 5/8 inch, brownish black

Host plants: cucumber, melon, pumpkin and squash; leaves turn crisp and brown

squash kernel See Part 2: Beans, Peas, and Nuts

squash seed May be fried in oil and salted and used as a snack

squaw grass See bear grass

squeteagues See sea trout

squid (bone squid; calamari; calamary; cuttlefish; inkfish; sea arrow; taw taw; *Loligo pealii*; *Ommastrephes illecebrosa*) A cephalopod with 10 arms used as food and fish bait. Mollusks with a usual body length of 3-9 inches (can be up to 50 feet). The skeletal shell is on the inside of the elongated body and there are fins on one end and tentacles (10) on the other; the quill is a rigid clear, plastic-like cartilage along the top of the body cavity

Types:

Arrow (*Nototodarus sloani*)—New Zealand

Atlantic (*Loligo pealei*)—North America

Broad (*Sepioteuthis billineata*)—New Zealand

Common (*Loligo vulgaris*)—Pacific, Mediterranean

Japan (*Ommastrephes sloani pacificus*)—Pacific

Little (*Alloteuthis media*)—Mediterranean

Pacific (*Loligo opalescens*)—Pacific

South African (*Loligo reyaudi*)—South Atlantic

Meat is firm, white, lean and will be tough if overcooked

Composition (raw): moisture 80%; protein 16%; fat 1%; carbohydrate 1-2%; ash 1%

squirrel A rodent with a meat flavor between chicken and rabbit; white meat similar to chicken See **hake**

squirrel hake (*Urophycis chuss*) A food fish

Sr Symbol for the element strontium

sredna gova A pork salami

sremske kobasica A coarsely chopped, pork pepperoni

SR medium base See Part 2: Microorganism, Media

SS See **somatostatin**

SS agar See Part 2: Intestinal Microorganisms; Microorganism, Media

SSDT Society of Soft Drink Technologists

-sta- An affix that means make stand or stop

stabbur A dry, uncooked, smoked Norwegian sausage (salami) made from medium chopped, medium seasoned beef and horse with blood added and fermented and stuffed into artificial casings

stabburnabb (chub) A dry, uncooked, smoked Norwegian sausage made from medium chopped, medium seasoned beef and lamb with plucks and blood added and fermented and stuffed into artificial casings

stability Relative resistance of a food to undesirable breakdown or change in character

stabilizer A food additive that thickens, prevents separation, prevents flavor deterioration, retards oxidation by increasing the viscosity, and gives a smoother product. Normally works by absorbing wa-

720 stabilizer

ter; they also prevent evaporation and deterioration of volatile flavor, e.g., agar, carrageenan, cellulose gum, gelatin, gum arabic, modified starch, pectin, and starches

See Part 2: Stabilizers, Thickeners

stable A product that does not change (e.g., clarity, texture, viscosity) with stress (e.g., acid, age, freeze-thaw, shear)

Stachyobotrys A type of mold

See Part 2: Molds, Mycotoxins

stachyose See Part 2: Sugar, Legumes

stacking feature Container bottoms designed to aid in stacking

stag 1) A male animal of several species castrated after reaching the age to develop a masculine character; compared to an animal castrated early in life, the stag will have a thicker neck and shoulders, coarse hair and bones, and considerable hardening of the breastbone. 2) A young male chicken 9–12 months old and beginning to develop spurs; cooked by stewing, steaming, or braising. 3) The uncastrated male of several wild animals (particularly red deer, which is also called a hart)

See Part 2: Swine Market Classes and Grades

stag-bush See **black haw**

staggergrass A plant having a toxic principle

See Part 2: Poisonous Plants

stain A chemical used to color tissue for microscopic study

stainless steel An alloy steel containing a high percentage of chromium (minimum of 4%) and often nickel. A well-known type has 18% Cr and 8% Ni. Used in corrosion-resistant food-processing equipment. Strong, durable, light weight, easy to clean, poor heat conductor unless bonded with copper or aluminum. May develop hot spots and warp. Must be dried off after use to prevent water spots. Does not react with alkalis or most acids. Is dissolved by halogenated acids (e.g., hydrochloric). No serious question has arisen concerning food safety

See Part 2: Stainless Steel

staking Flexing a tanned hide over a metal blade to make the fibers pliable

stale Of food, dried out and/or not fresh; chemical deteriorative changes that lead to undesirable alterations of taste, odor, flavor, toughness, or lack of crispness and texture with time; of carbonated beverages, flat; of animals, to urinate

stalk The main stem of a herbaceous plant, often with its dependent parts See **stem**

stalklage See **corn, aerial part**

stalky Harshness in wine

stallion A male horse (not castrated)

stamen The male part of a flower that bears the pollen

See Part 2: Flower, Imperfect; Flower, Perfect

staminate A small, male flower (no pistils)

stamp Mark with a die or pattern; label; brand

stanchion A device that is usually used to hold cows in place in a barn, usually for milking. Has two bars, one on each side of the neck, behind the head and in front of the shoulders

standard 1) A stated quality or performance requirement or specification. 2) Standard rootstock; the type of rootstock that will produce a full size tree (up to 35–40 feet)

See Part 2: Grades, Meat; Meat Grade Stamps; Microbiological Standards, Dairy; Standards, Processed Fruit and Vegetable Products; Water Drinking Standards

standard deviation (σ) Variation of observations; a σ of one population cannot be compared with the σ of another population because the σ is somewhat dependent on the sample magnitude.

$u \pm 1\sigma$ = point of inflection in a normal distribution

$u \pm 1\sigma = \frac{2}{3}$ of observations in normal distribution

$u \pm 2\sigma = 95\%$ of observations in normal distribution

$u \pm 3\sigma = 99.74\%$ of observations in normal distribution

Estimated by sample standard deviation(s):

$$s = \sqrt{\frac{\sum x^2}{n-1}} = (\text{same units as original data})$$

x = deviations from mean

n = sample size

A quick but inefficient estimation of σ :

rough estimation of σ

$$= \frac{\text{largest value of } X - \text{smallest value of } X}{C}$$

n	C
5	2
10	3
25	4
100	5

Interval estimate of σ (95% level):

$$\frac{\sum x^2}{\chi^2_{0.025}} \leq \sigma^2 \leq \frac{\sum x^2}{\chi^2_{0.975}}$$

Test of σ^2 :

$$\chi^2 = \frac{\sum x^2}{\sigma_0^2}$$

σ_0^2 = value is assigned according to your HO

(Example: comparing with known σ of another sample) $df = n - 1$

standard error (σ/\sqrt{n}) Approximated by estimator of standard error ($S\bar{x}$)

$$S\bar{x} = \frac{s}{\sqrt{n}} \quad s = \text{estimation of standard deviation}$$

$$= \sqrt{\frac{s^2}{n}} \quad s^2 = \text{estimation of mean square}$$

standard method See Part 2: Microorganism, Culture Media, Water and Sewage, Standard Methods

standard methods agar Agar used for standard plate count

See Part 2: Microbiological Examination of Dairy Products; Microbiological Media

standard of identity A regulation stating (recipe) the kind and amount of ingredients and processing requirements for a specific food; a statement of basic composition and permitted ingredients for preparing of processed foods maintained by the government for regulation purposes

standard plate count Agars used include plate count agar and standard methods agar See **plate count**

See Part 2: Microbiological Standards, Dairy

standard solution A solution containing a known substance at a known amount in terms of normality or molarity

See Part 2: pH, Standard Solutions; Reagents, Normal Solutions

standing rib roast A roast made from the fore quarter of beef that comes from the seventh to twelfth rib area; the inside portion of the backbone is removed and the ribs are cut at the end of the rib eye muscle

standing rump roast A triangular roast from the rump area with knuckle bone removed but parts of tail bone and aitch bone remaining

stangen cheese A low-fat, high-protein, semisoft, cheese made from cow's milk and with surface smear

stangenkäse (bierkäse) A soft, creamy, sour cream cheese made from cow's milk

stankorv A moist, cooked, unsmoked Swedish sausage made from coarsely chopped, medium seasoned meat with barley grain, flank, rind, and internal organs added and stuffed into pork casings

Stanley, Wendell M. The person who crystallized the first virus

stannous chloride (tin chloride; tin dichloride) ($\text{SnCl}_4 \cdot 2\text{H}_2\text{O}$) Used as a food antioxidant; reducing agent

Storage: tight container

staph See *Staphylococcus*

staph poisoning See *Staphylococcus aureus*

staphylococcal See Part 2: Bacterial Foodborne Illnesses

staphylococci Irregular clusters of cocci cells resembling a bunch of grapes

Staphylococcus (staph) A spherical type of infectious bacteria (cocci) that produce toxins (enterotoxins) that causes disturbances of the gastrointestinal

tract; a quite common microorganism that forms a stable (not destroyed by boiling or baking) toxin; a spherical type of bacteria of genus *Staphylococcus* that occurs in pairs, tetrads, and clusters; some are pathogenic or infectious bacteria (cocci)

See Part 2: Diseases, Food-Borne; Food Poisoning, Bacteria; Illness from Food; Infectious Diseases, Food-Borne; Intestinal Microorganisms in Triple-Sugar Agar; Microbial Toxins; Microbiological Media; Microbiological Standards, Dairy; Microorganism, Media; Water Activity, Organisms and Food

Staphylococcus aureus The coagulase-positive bacteria often found in grape-like clusters, some strains of which produce a toxin responsible for the most frequently occurring type of food poisoning (staph poisoning); they are gram-positive cocci, facultative anaerobes, and are easily destroyed by elevated temperature; people having this type of food poisoning usually recover in 1–3 days. Heating to 60°C will kill this bacteria, but the toxin is stable to boiling temperature for extended periods. 1 µg enterotoxin per gram of food will induce food poisoning; 0.000005 grams of toxin will cause vomiting; resides in nose and skin. Growth and toxin production reduced below 77°F (25°C); toxin production inhibited below 50°F (10°C)

Enterotoxin: will withstand boiling for 20 minutes; heat treatment given to most foods will not destroy enterotoxin formed prior to heat treatment

Enterotoxins A—often involved in food poisoning

Enterotoxins B—seldom involved in food poisoning

Enterotoxins C₁—seldom involved in food poisoning

Enterotoxins C₂—seldom involved in food poisoning

Enterotoxins D—often involved in food poisoning

Enterotoxins E

Staphylococci cell count is primarily a screening test. Growth temperature 45–115°F (7–46°C); pH range 4–9.8; NaCl tolerance 10–20%. Implicated foods usually contain 1×10^6 per gram

Toxic level:

1×10^6 per gram in nonfermented food

1×10^7 per gram in fermented food

Produces an enzyme that coagulates animal serum (coagulase); thus isolates are often referred to as coagulase positive

Media used for growth: tryptic soy agar and Baird-Parker agar

See Part 2: Bacterial Foodborne Illnesses

staphylococcus enterotoxin A heat-resistant toxin produced by *Staphylococcus aureus*

Staphylococcus pyogenes (aureus) See *Staphylococcus aureus*

staple 1) Food products that are essential for daily consumption. 2) A vegetable fiber

staple food Food that is regularly consumed in a given country or community; food in an area that makes up a large portion of the total calories consumed; food used in times of food shortage

Stapleton blend A full body, lively taste, restaurant (forgiving when left heated for long periods of time) blend of coffee that will satisfy a wide range of coffee preferences

722 star anise

star anise A spice that has a star-shaped fruit and an anise seed overtone but is not related to the anise seed spice and has a distinctive flavor

star anise blend A scented tea made from black tea with an anise flavor

starch ($C_6H_{10}O_5$)_n. A carbohydrate (polysaccharide) made up of many glucose units [1 and 4 α (helical or spiral) linkage]. Most starches are a mixture of two polysaccharides. Found in seeds and roots; major source of food and feed energy. Edible starch is purified and made from corn, potatoes, rice, or wheat; laundry starch is made from the same products but is unpurified. A white granular polymer that is the principle part of the endosperm. Starchy foods are not flavorful if eaten raw; cooking swells the starch granules, breaks them open, improves the flavor, and increases digestibility; when heated the starch swells and can be used for thickening.

Amylose content:

Corn 25–30%

Potato 20–29%

Rice 15–18%

Wheat 25–35%

See also **amylpectin**; **amylose**; **binder**; **sago palm**

See Part 2: Amylose and Amylopectin; Bananas, Composition; Corn Kernel; Corn Kernel Composition; Grain Analysis; Gums and Gelling Agents; Gums and Gelling Agents, Characteristics; Minerals, Trace, Limits; Starch; Starch, Microappearance; Starch, Modified; Starchy Roots Composition; Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat Kernel; Wheat Kernel Parts; Wheat, Parts of Grain; Wheat Products Composition

starch, acid conversion Starch hydrolyzed by acid (pH 2.0) to produce corn syrup (D.E. 20–55)

starch, acid-modified Made by controlled acid (hydrochloric or sulfuric) hydrolysis (of alpha-D-glucosidic bond) of water suspension of granular starch at temperatures too low for gelatinization. When appropriate hydrolysis has been obtained, the acid is neutralized, the starch is filtered, washed, and dried, and this produces a starch with reduced molecular size

starch, bleached Starch oxidized with ammonium persulfate, hydrogen peroxide, peracetic acid, potassium permanganate, sodium hypochlorite, or sodium chlorite to remove color. Also reduces bacterial numbers

starch, conversion Starch hydrolyzed (usually by acid) to dextrose, maltose, and other sugars See **starch, acid conversion**

starch, converted Starch that has been treated to reduce the viscosity (higher percentage can be used in final product) and this also increases the solubility in water. Treatments include acid, oxidizing with chlorine, and roasting in dry state (produces dextrins)

starch, cross-linked Starch treatment (mixed anhydride of acetic and adipic acid, phosphorus oxychloride, sodium trimetaphosphate, and/or epichlorohydrin) so that hydroxyl groups form different molecules; can increase their hydrogen bonding and thus the granule will maintain its integrity at higher temperatures

starch, granule Organized aggregates of amylose and amylopectin

Properties:

Can be microscopically identified by shape and size

Disintegrated by digestive liquids

Sensitive to acid

Shear when swollen

Swell when heated

starch gum Dextrin, formed by hydrolysis of starch; a thickening agent

starch, modified Natural starch (e.g., corn, potato, sago, sorghum, wheat) treated with chemicals to produce desirable physical characteristics (easier to digest, improved consistency)

Chemicals used: aluminum sulfate, anhydride, octenyl, propylene oxide, sodium hydroxide and succinic

starch molasses See **hydrol**

starch-reduced bread A wheat (with lower starch) bread

starch sugar See **glucose**

starchy 1) Having a large quantity of carbohydrates.
2) An uncooked starch flavor

starka Vodka flavored with apple and pear infusion and with brandy and port

star of the earth See **hartshorn**

starowiejska A semidry, cooked, double-smoked Polish sausage made from fine or coarsely chopped, medium seasoned pork and stuffed into sheep casings

Starr A variety of millet

starry flounder (*Paralichthys olivaceus*; *Platichthys stellatus* syn.) A white meat, light to moderate flavor, Pacific, finfish used for food

stars End pieces obtained when slicing large-casing sausage products

starter culture A bacteria or yeast culture added to meat, milk (cheese, butter), bread, or other fermentations. A pure or mixed culture can be used in meat; *Pediococcus cerevisiae* can be used; not more than 0.5% used in cervelat, salami, and thuringer

starting solution Solution of nutrients placed on roots or seed when they are planted

starvation Result of complete deprivation of food or of drastic reduction in food intake for a period of time; extreme privation of food

stated portion Product listed on menu by size or weight

statement of ingredients A listing of ingredients in a food in descending order by quantity

state of nutrition See **nutritional status**

stationary phase A stage in bacterial growth following the logarithmic growth phase in which the number of bacteria do not change

Statistical Quality Control (SQC) A systematic method of arranging, analyzing, and describing or charting data to assure quality; a method of analyzing collected data and portraying it graphically to provide a basis for control

statutory See Part 2: Minerals (Trace), Limits

stave Wooden pieces that make the side of a barrel, cask, or bucket

Stayman Winesap A variety of apple that is in season from November to February; excellent cooking and sauce apples; good eating apples

stay-on-tab end An easy-open end with nondetachable tab and retainer tear strip

steak A large, thick ($\frac{3}{4}$ – $1\frac{1}{2}$ inches), boneless or bone-in, slice of meat; also a cross-section cut of large fish
Storage: Coldest part of refrigerator; original wrapper for 1–2 days storage; unwrap and cover loosely for 3–5 days storage

See Part 2: Animal Foods, Composition; Beef Chart; Beef Yields; Broiling Griddle, Meat; Broiling Meat; Broiling Time and Temperature; Fish Forms; Fish Steaks; Fish Yields; Frozen Food Storage; Lamb Cuts; Lamb Cuts and Uses; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat, Servings Per Pound; Minerals, Food; Pork Chart; Pork, Cooking; Pork Cooking Methods; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Portion Size; Sauce, Beef Steak

steam 1) Water in a vapor state at 212°F and 1 atm pressure. Water increases more than 1600 volumes when converted to vapor. 2) To cook in steam (with or without pressure) in a steamer or in a pressure cooker

See Part 2: Steam, Properties

steam bone meal A dried, ground product obtained from cooking bones with steam under pressure

steam distillation The introduction of “dry” steam in a separate boiler into a still to remove the essential oils from a product

steam-distilled wood turpentine Wood turpentine distilled with steam from the oleoresin in wood or extracted from wood

steam dome Area in a hydrostatic retort where sterilization is accomplished

steamed Steam used to alter physical and/or chemical properties

steam-flow capper A capper that sweeps air from the container headspace with steam to produce a vacuum

steam header A pipe that supplies steam to a number of retorts

steam inlet A hole through which steam is admitted to the retort

steam jacket A double-walled cooking vessel in which steam between the walls is used for heating

steam-pressure canner A large, heavy container with a tight-fitting cover, a safety valve, steam vent, and gage (may be weighted) that may be used for canning (normally 10 pounds of pressure at sea level; 240°F) low acid foods

steam-pressure saucepan A vessel similar to, but smaller than, a steam pressure canner

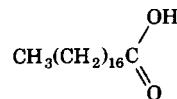
steam-rendered lard Live steam under 30–50 lb pressure is introduced into a container with the fat

steam spreader A steam line with perforations inside a retort through which steam is distributed into a load of containers

steam-water interface The interface between water (used for hydrostatic pressure) and steam (used for processing) in a hydrostatic cooker

steapsin Pancreatic lipase; converts triglycerides to fatty acid and glycerol

stearic acid (octadecanoic acid)



An 18-carbon saturated fatty acid found in animal and vegetable fats, especially beef. Used as a food lubricant, defoaming agent, and to manufacture other food additives.

Physical properties: acidic value 206–210; iodine value 3–7; melting point 69°C; saponification value 207–210; titer 54–55°C

Storage: tight container

See Part 2: Fat and Oils, Fatty Acid Composition; Fatty Acids; Fatty Acids and Their Properties; Fatty Acids, Fats and Oils; Milk, Fatty Acids, Seasonal; Oils, Seed and Fruit; Saturated Fatty Acids; Seed, Chemical Composition; Wheat, Fatty Acids; Wheat Products Composition

stearine (stearin) A hard hydrogenated fat (tristearate); iodine value below 20; melting point 135–155°F

stearyl 2 lactic acid A food emulsifier used in shortening

stearyl monoglyceride A food emulsifier used in some shortening

stearyl monoglyceridyl citrate Used as a food emulsion stabilizer
Storage: tight container

steatite See soapstone

steatosis Degeneration of fatty tissue and accumulation of this degenerate fatty tissue in a muscle

steel 1) A hand tool (smooth or ribbed) used to straighten the wire edge of a knife and to keep it sharp. 2) Purified iron containing 0.1–1.5% carbon. Often used to make a cooking utensil and there seems to be no serious question concerning safety; soluble to varying degrees in food

steel cut oatmeal Cut oatmeal; not rolled oats

steelhead (*Salmo gairdneri*) A rainbow trout

See Part 2: Salmon and Trout

steelhead trout A food fish See rainbow trout, North America

steel wool A mass of fine steel threads used as an abrasive for cleaning

steep (soak) 1) To soak in liquid. 2) Immerse barley to induce germination in the malting process. 3) To extract in liquid just below the boiling point, e.g., tea

steep-extracted Soluble materials removed from organics by soaking in water or other liquids

steepwater Liquid containing soluble materials extracted by steep extraction

steer A male bovine that has been castrated before developing any masculine characteristics

724 steer-bull

steer-bull Cryptorchid

steer-oid A growth promoting implant used on slaughter steers

steffens waste Desaccharified beet-sugar molasses

steinbuscher A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

steinbuscher-käse A sour, semihard, full cream cheese

steinhager A type of gin

steinwein A dry, full body, white, moselle, table wine
See **franconia**

stellate A small, star-shaped pasta

stem The principal body of a plant; a stalk; coarse, aerial part of plant that supports buds, fruit, leaves, etc.

See Part 2: Corn; Vegetables, Classification; Wastes, Agricultural and Industrial

Ste. Maure A very strong, goat's milk cheese with a creamy outside and chalky inside

stem correction Temperature correction applied to a thermometer reading to correct for the thermometer liquid that is above the sample being measured, and consequently at a different temperature

stem-end See **blossom end**

stem-end rind breakdown See **aging**

stem-end rot 1) A strawberry disease caused by a fungus (*Gnomonia fructicola*) similar to the fungus that causes leaf blight. Proper spacing and correct timing of fertilizer application are the most important preventive measures. Fungicides are also helpful. 2) A citrus fruit rot that causes a softening of the rind and underlying pulp and usually begins at the stem end. Dead ripe fruit is very susceptible. The rind turns from tan to brown and sometimes black. It is caused by two fungi:

Diplodia natalensis rot is very rapid and tissues do not shrink. The decay is rapid down the center axis and also develops in the rind along the lines that separate the segments. Odor is sour and fermented

Phomopsis citri rot is slower and some shriveling is noted. It progresses down the center core. The taste is flat, bitter, and rancid and the pulp is mushy.

Low-temperature (33–34°F) storage is desirable when it is not prohibited by possible peel injury. 3) Rot of mango and papayas caused by *Diplodia natalensis* or *Phomopsis citri* or other fungi. It is encouraged in mangos by storage temperatures above 55°F. Rot starts at stem end or injured areas and skin turns light brown to black, with a soft watery rot and a sour odor. In papayas (also *Dothiorella gregarea*) the skin may turn brown. A soft watery rot is formed with a sour odor

St. Emilion (Burgundies of the Gironde) A deep-colored, full-bodied wine having a fine bouquet, e.g., Chateau Ausone, Chateau Cheval Blanc

stem rot 1) A rice disease caused by a fungus (*Sclerotium oryzae*) that lives in the soil. It may be controlled by planting resistant varieties, balanced fertilizing, draining, crop rotation, or by foliar fungicides. 2) Blue stem; fusarium wilt; yellow blight. A sweet potato fungus (*Fusarium oxysporum*) disease that causes vines to die and formation of a black ring $\frac{1}{4}$ inch below the top surface of the root

stem rust (*Puccinia graminis*) A disease (parasitic fungi) of the wheat stem. Causes shriveled kernels and reduced yield

stepnoy A tilsit-type cheese sometimes flavored with caraway seed

steppe A tilsit- or gouda-type cheese made from whole milk or often made with partially skimmed milk

steradian

1 steradian = 3283 square degrees
= 0.6366 spherical right angles
= 0.1592 hemispheres
= 0.07958 spheres

sterculia gum See gum karaya

stere (kiloliter) A solid measure

1 stere = 999.973 liters (l)
= 35.316 cubic feet (ft³)
= 1 cubic meter (m³)

stereoisomer A chemical compound having two three-dimensional structural configurations, but the same molecular formula. Two types exist:

Geometric isomers, which have cis and trans configurations

Optical isomers, which have right-handed (dextro) and left-handed (levo) configurations

sterile 1) A substance that contains no microorganisms. 2) An animal unable to reproduce

sterile-male technique A method of controlling pests by producing and releasing sterile males of the species

sterility, commercial Food free of viable forms of microorganisms having public health significance, as well as any microorganisms of nonhealth significance capable of reproducing in food under normal nonrefrigerated conditions of storage and distribution

sterilization 1) The process of destroying microorganisms by dry heat (320°F for 1 hour) or by radiation. 2) Destruction or removal of all living organisms; act or process of eliminating all living forms of life. Whole milk is sterilized by heating to 270–280°F for 8–10 seconds and then aseptically canning. It has a slight cooked flavor. 3) An operation that renders an animal incapable of reproduction

See Part 2: Radiation Preservation

sterilizer A product that will destroy or eliminate all forms of life, e.g., ethylene oxide in specially constructed devices or betapropiolactone in the fumigation of tightly closed spaces

sterlet (sterljad; *Acipenser ruthenus*) A small, sturgeon-type, food fish found in the Volga or Danube
Parts used: caviar, flesh, isinglass

sterling silver (solid silver) An alloy that must be 925/1000 pure silver; balance usually copper

sternal rib A rib that articulates directly with the sternum *See also* rib

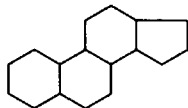
sternebrae *See* Part 2: Bone

sternum The breast bone; keel bone; eight sternal and five asternal bones in this group

See Part 2: Bone; Bone Age

sternum sternebrae Breast bone that attaches first ribs together (hog has 6)

steroid A compound that contains the ring structure



Examples: bile acids, vitamin D, and sex hormones
See Part 2: Steroids

sterol An alcohol derived from a steroid; a group of cyclic alcohols of complex structure with a base consisting of three six-membered rings and one five-membered ring; secondary alcohol and various side chains are also in the structures; cholesterol is best known

stew 1) To cook (150–190°F) slowly in liquid, just below the boiling point. 2) A dish containing a minimum of 25% meat on a fresh meat weight basis, cooked in gravy or meat sauce; small pieces of meat and/or vegetables simmered in water.

Types:

Bohemian—pumpnickel crumbs
Brunswick—squirrel and chicken
Calabrese beef—tomato juice
Carbonade—brown gravy
Goulashes
Ham
Irish—lamb; white gravy
Pork
Pot roast

See Part 2: Meat Composition; Meat, Servings Per Pound; Microwave Processing Time; Portion Size; Poultry Class; Simmering Meat; Veal Chart; Veal Cuts; Veal Cuts and Uses

stewing chicken *See* hen

St. Galler Schubligh A moist, cooked, smoked Swiss sausage made from medium chopped, medium seasoned beef and pork and stuffed into pork casings

stick 1) Tankwater collected in evaporators. 2) Row of containers the weight of the conveyor chain used to transport containers through a hydrostatic retort

sticking Exsanguinating by cutting the carotid arteries; meat from the region of the throat or breast

sticking knife A knife with a 6–7 in. blade, sharpened on both sides

stickwater The aqueous, fat-free extract of cooked meat or fish. It contains water condensed from steam used in processing, aqueous cell solution, and soluble glue proteins

stifado Spiced, braised beef and onions

stiffs *See* osteomalacia

stifle joint The joint between hind shank and leg bone (femero-tibis-patello joint); in live animals just behind rear flank

See Part 2: Beef Rounds, Bone Structure; Beef Wholesale Cuts; Bone; Lamb, Wholesale Cuts; Pork Wholesale Cuts; Veal Wholesale Cuts

stigma That portion of the pistil of a plant where pollen is applied

See Part 2: Flower, Perfect

stilbestrol (diethylstilbestrol) A synthetic estrogen (female sex hormone) that was implanted and fed to cattle to promote growth. Because of its possible carcinogenic effects, the federal government has prohibited its use

still 1) Equipment used for separating liquids by distillation, i.e., boiling with subsequent condensation. 2) A noneffervescent (nonsparkling) wine

stillage Grain mash after fermentation and removal of alcohol

stillingia *See* Part 2: Iodine and Saponification Values

still retort A batch type, nonagitating vertical or horizontal pressure vessel used for processing food at temperatures above 212°F

stilton A smooth-textured, crumbly, sharp, rich, blue-veined cheese made from cow's milk and with a wrinkled, melonlike rind and formed into a tall cylinder (2–8 kg)

stilton cheese A semihard cheese from England; similar to Roquefort (milder) or blue (more crumbly). Made from cow's milk that is pasteurized and inoculated, rennet added, not scalded, not pressed, and mold ripened 2–6 months. Molds responsible for the blue-green appearance are *Penicillium roqueforti* or *P. glaucum*

Types:

Blue—tangy flavor; close; soft texture
White—mild; crumbly

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

stimulant A substance that will speed up a system

stimulus An energy change in the environment that affects one of the senses

stinger An alcoholic beverage made with 1½ oz (1 jigger) brandy and ¾ oz (½ jigger) white creme de menthe shaken with ice and strained

stingfish A foodfish *See* great weever

sting nematode (*Belonolaimus* spp.) 1) An extremely small worm that attacks strawberries (and several other crops) by feeding on the exterior of the root. To prevent, plant stock that is substantially free of sting nematodes; soil fumigation is also recommended. 2) A parasitic nematode (*B. longicaudatus*) that reduces the yield and quality of sweet potatoes

stingray (*Dasyatis* spp.) A food fish

stink bug (plant bug) A brown, green or black (some have markings), shield-shaped, up to ½ inch long and ⅓ inch wide insect. The nymphs resemble adults but are smaller and give off a foul odor. They suck sap

726 stink bug (plant bug)

from plants *See* **conspense stink bug**; **Say's stink bug**

See Part 2: Insect Control

stinker *See* **sulfite**

stink fish A strong flavored, dried, salted fish used as a flavoring

stinking smut *See* **smut and dwarf smut**

stir Mixing in a circular motion, usually with a tool or machine

stir frying Cooking of sliced food quickly in a small amount of oil in a skillet or wok

stirk Weaned calves (usually male or female)

Stirling's approximation formula *See* **factorial**

stitches Individual injections of a pickle into meat about to be cured

stjernelux A beef and pork salami; a dry, uncooked, smoked Norwegian sausage made from medium chopped, medium seasoned beef and pork and fermented and stuffed into artificial casings

St. John's bread *See* **locust bean gum**

St. John's wort A plant having a toxic principle. Also used as an herb

See Part 2: Poisonous Plants

stock 1) A short name for livestock. 2) A solution of water-soluble food components, e.g., broth

Types:

Brown—meat, bones, and vegetables are browned before simmering

Brown bone—only bones are used

Light—meat and vegetables not browned before simmering

3) Seedling tree used in budding or grafting

See **bouillon**; **carryover**; **rootstock**

stock cattle (stocker) Young, light, thin steers or cows

stockfish A South African (*Merluccius capensis*) food fish. Cod (*Gadus*), saithe (*Pollachias*), or blue ling (*Molva*), dried (17–18% moisture) fish; fish dried and cured without salt; air-dried cod *See* **codfish**

See Part 2: Vitamin D, Fish

stockpot, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	81.9	90.6
Protein (%)	3.8	2.0
Fat (%)	3.0	1.6
Carbohydrate (%)	8.9	4.6
Fiber (%)	0.4	0.2
Ash (%)	2.3	1.2

Stoddard oat agar *See* Part 2: Microorganism, Media

stoichiometry Study of the laws governing the quantities of substances that enter into and are produced by chemical reactions; determination of the proportions in which elements combine

stoke *See* **red laver**

Stokes' law An equation defining the rate of settling of particles from a suspension

Stolichnaya A tradename for a vodka

stollen German coffee cake, made with unbleached flour, citrus fruits, and raisins. A high-fat, tea bread with fruit

stolon (runner) A horizontal stem below or along the top of the ground, e.g., strawberries

stomach A pouch (10 inches long and 4½ inches in diameter in humans) between the esophagus and the intestine in which most of the digestive process occurs.

Capacity (human adult): 1–2 liters

Food passage: 1.5–4 hours

Gastric juice volume: 2 liter per day

pH 1.5–3.0

See Part 2: Casings, Animal; Casings; Hog and Beef; Gland Weights; Organ Weights

stomachic Strength to stomach; stimulate appetite

stomach poison A pesticide that kills an insect that ingests it

stomata Pores located on the underside of leaves

stone *See* Part 2: Insulation

stone bass (*Polyprion americanus*) A food fish

stone crop Young leaves that may be used in salads or pickled

stone fruit Fruit with a hard stony pit, e.g., apricot, cherry, nectarine, peach, plum

stonsdorfer A dark, bitter, digestive liqueur

stony pit A virus disease that causes stony tissue in pear fruit usually at the base of depressions; some fruit is misshapened

stool Fecal discharge; feces evacuated in one bowel movement

STOP Swab test on premises; a rapid, on-site microbiological procedure that uses an antibiotic screening test

storage Place or process of keeping safe or in reserve *See* **controlled atmosphere storage**; **shelf-life**

See Part 2: Fruit, Growing Season, Storage Life; Fruit Storage; Meat, Frozen Storage; Meat Storage; Pork Storage; Vegetable Storage

storage payment Payment a farmer receives when he/she places a commodity in the farmer-owned reserve

storax (styrax) A balsamic resin

See Part 2: Essential Oils

store cheese A general term for cheddar; Canadian cheddar cheese

stores Young weaned pigs; lean cattle prior to fattening

stot Castrated male cattle

stout A strong, dark (black malt is used) beer; an English beer with 3.9–5.3% alcohol by volume. A dark, heavy, alcoholic beverage fermented from barley

stover Mature, cured, dried stalk and leaves of corn from which ears have been removed; mature, cured stalk of sorghum after the heads have been removed *See* **corn**, **aerial part**

STP Abbreviation for standard temperature and pressure, e.g., 0°C and 760 mmHg

STPP Sodium tripolyphosphate

stracchino A creamy, semisoft, mild flavored cheese made from cow's milk and ripened by surface bacteria *See stracchino cheese*

stracchino cheese Several varieties of a pungent cheese; a soft fresh cheese made from whole milk *See stracchino*

straddle (spread) The purchase of one future month against the sale of another future month of the same commodity or the sale of one month against an existing position in a different month

straight-grade flour A grade of white flour that comprises from 97–100% of all the white flour milled

straighthead A rice physiological disease that develops from an abnormal soil condition. It may be controlled by planting resistant varieties and draining

straight line capper A container closing machine in which the containers travel in a straight line through the capping operation

straightneck A creamy yellow, long cylindrical, summer squash

straight whiskey *See bottled in bond*

strain 1) To pass through a filter, strainer, or sieve.
2) A microbial isolate or culture

strained food (baby food; pureed food) Smooth and uniform processed canned food that has been strained

strained honey Honey separated from comb by straining after the comb has been crushed

Strassburg A moist, cooked, unsmoked Australian sausage made from finely chopped, mild seasoned pork and stuffed into artificial casings *See muenster*

Strassburg brand sausage A cooked, smoked sausage

Strassburg, liver sausage A high-grade, liver sausage made from pork and veal livers, diced calves liver, whole pistachio nuts, onions, and spices; it is cooked but not smoked. Goose style is in 4 inch links

Strassburg, smoked A moist, cooked, smoked Australian sausage made from finely chopped, medium seasoned pork and stuffed into artificial casings

stravecchio Three-year-old parmesan cheese

straw The stem of grain after threshing. The plant residue, including chaff, remaining after thrashing. Good mulching material (limited in nutrients), but is a fire hazard; oat straw is softer than wheat or rye straw; barley straw has barbs *See corn, aerial part*

strawberry (*Fragaria* fam; wild variety, *F. vesca*)
The small red edible fruit of the species *Fragaria*; a perennial herb that sends out runners that will root into new plants. The edible fruit is an enlarged receptacle and the seeds are imbedded in its surface. This dessert fruit is very perishable and may be consumed fresh, canned, frozen, or made into jam
Registered plants: grown under state supervision; plants are substantially virus-free

Certified: grown under state supervision; plants are free of most noxious diseases and insects, however they may carry virus

Bearing age: 2 years

Yield per plant: $\frac{1}{2}$ –1 pound

Canned style:

Berries—limited quantities

In syrup (better color)

In water

Pie filling

Frozen style:

Halves—sugared

Slices—sugared

Whole—sugared and unsugared

For freezing: add 1 cup of sugar and 1 teaspoon of ascorbic acid to 4.5 cups of washed and hulled berries
Tea is sometimes made from roots and leaves

Refuse: 5%

Equivalents:

1 bushel, fresh = 40–50 pounds (lb)

= 10–16 quarts (qt), canned

1 crate (24 qt), fresh = 38 pints (pt), frozen

= 36 lb

= 24 pt, canned

20 ounce (oz) bag, frozen, unsweetened

= 4 cups, whole berries

= 2.5 cups, sliced berries

= 2.25 cups, pureed berries

6–8 cups, fresh = 1 qt, canned

$1\frac{1}{2}$ –4 qt fresh = 1 qt canned

1 qt, fresh = 20 ounces

= 4 cups, sliced

= 4 servings

= 1 pound, sliced, in sugar, frozen

1.5 lb, fresh = 10 oz, whole, frozen

$1\frac{1}{2}$ lb, fresh = 4 cups (1 cup = 145 g or 5.1 oz)

= 4 cups, sliced

1 lb, fresh = 1 pt

1 small basket = 1 pt

4 cups, whole = 3.5 cups, sliced

1 pt = 3.25 cups, whole berries

= 2.5 cups, of slices

= 1.6 cups, pureed

= 1 cup, mashed

= 12 large, stemmed berries

= 36 small, stemmed berries

= 3 to 6 servings

1 pt, frozen = 0.7 qt, fresh

10 oz, frozen, sliced and sweetened

= 1.25 cups, sliced berries and syrup

= 2–3 servings

1 cup, frozen, sweetened, whole = 9 oz

1 cup, fresh, whole, capped = 5.1 oz

1 cup, whole = 4 oz

1 cup, mashed or pureed = 1.6 cups, fresh or frozen

1 serving = 0.75 cup

Composition (raw): moisture 90%; protein 1%; fat 0.5%; carbohydrate 8%; fiber 2%; ash 0.5%; pH 2.3–3.8 (lowest acidity for jelly is pH 3.4); vitamin A 60 IU/100 g; ascorbic acid 60 mg/100 g

Handling: do not hull prior to washing. Wash, dry, and twist off caps

Storage: remove damaged berries; do not wash; leave caps on until ready to use,

Short term (fresh; 4 days)—31°F, 85–90% relative humidity

728 strawberry (*Fragaria* fam; wild variety, *F. vesca*)

Strawberry type	Production	Area	Shape	Color	Flavor	Use
Everbearing (<i>F. vesca</i>)—fruit production summer and fall						
Champion						
Gem						
Gemzata						
Green Mountain						
Mastodon						
Ozark Beauty	Abundant		Large, firm	Bright red	Sweet, good	Canning freezing
Paris Spectacular	Abundant		Firm			
Superfection			Medium size		Tart	Fresh, canned, frozen, jam
Sweet Abundance			Large 1.5 in.	Dark red	Sweet	
Wayzata						
Garden (<i>F. virginiana</i>)—fruit production May to July						
Aberdeen		Northern				
Albritton		Eastern				
Alpine Yellow	80 days from transplant		Round	Yellow	Intense	
Big Joe	Late	Southern		Dark red		
Blakemore		Central	Long pointed	Dark	Tart	Excellent shipping, good canning
Catskill	Midseason	Northern	Large	Light red	Good	Good shipping, subacid
Chesapeake	Light					
Cyclone	June, early		Large		Superior	Freezing
Daybreak	Early	Southern	Large	Medium red		
Delite	Late		Large, cone Long	Bright red	Fine	Preserving Dessert
Dorset	Light	Northern				
Dresden	Heavy				Sour	
Earliglow	Early, heavy				Good	
Fairfax	Moderate, early in south	Southern	Irregular, medium-large	red, darker on ageing	Good	Dessert
Fairmore		Southern				
Florida Ninety		Eastern				
Guardian	June, midseason		Firm, large	Red, glossy	Good	Fresh, frozen, preserves
Marlate	Very late	Mid-Atlantic	Large	Bright red	Excellent	Late production
Maytime	Early	Southern	Large			
Midway	Midseason		Conic, firm	Bright red	Good	Dessert freezing, preserves
Missionary		Southern				
Pathfinder	Heavy	Northern	Round	Pink	Mild, rich	Poor shipping
Pocahontas		Central				
Premier (Howard-17)	Early	Northern	Heart-shaped, medium-large	Red		Fresh, jam
Raritan	Midseason, heavy		Solid		Good	
Redchief	Midseason		Medium-Large	Deep Red	Good	Jam, dessert, freezing

(Continued)

Strawberry type	Production	Area	Shape	Color	Flavor	Use
Garden (continued)						
Redstar	Light					
Scotch	Midseason					
Senator Dunlap	Midseason	Midwest	Large	Bright red	Good	
Starbright	Midseason	Southern				
Sunrise		Central and eastern				
Surecrop	Midseason, June heavy		Round, large	Shiny, red	Sweet, good	Freezing, canning, shipping
Tangi		Gulf				
Tioga		Florida				
Vesper	Late				Good	

Storage (continued)

Long term (frozen); 1 year — — 10°F

See Part 2: Ascorbic Acid; Canned Yield; Flavor Ingredients, Taste and Flavor Type; Flavors, Beverage; Food, Composition; Frozen Food Storage; Fruit, Availability; Fruit Classification; Fruit Composition; Fruit Frozen Yield; Fruit, Growing Season, Storage Life; Fruit Harvest Dates; Fruit Servings Per Pound; Iron; Minerals, Food; Plant Foods, Composition; Potassium-Rich Foods; Rot Spoilage; Storage; Sugar, Fruit; Vitamin C; Wine, Sweet

strawberry, canned Most often as strawberry pie filling. In addition to strawberries, may also contain natural and artificial flavors

Syrup percentage:

Extra light — < 14%

Light — 14–19%

Heavy — 19–27%

Extra heavy — 27–35%

strawberry cream pie

Composition: sodium 101 mg per $\frac{1}{8}$ of 9-inch pie (66 g)

strawberry, flavoring A synthetic flavor mixed with fruit juice, extract, water, and alcohol. Used with red coloring

strawberry, frozen

Style: halves, slices, whole

Packed: with and without sugar

strawberry guava A reddish purple fruit smaller than ordinary guava

strawberry pie

$\frac{1}{8}$ of 9-inch pie = 185 calories

strawberry preserves

2 pints strawberries and 4 cups sugar

strawberry spinach See **chard**

strawberry tomato See **gooseberry**

strawberry tree See **arbutus**

strawberry weevil clipper

Host: strawberry, blackberry, raspberry and dewberry

Damage: cuts stems of fruit buds

Control: insecticide

strawbreaker (*Cercospora herpotrichoides*) A fungus that attacks the stems of wheat at the soil level causing the straw to break over

straw mushroom (*tobo*; *Volvariella voloaraceae*) Mushrooms grown on rice straw

straw potatoes Match-sized French fried potatoes

streak mosaic A virus affecting wheat

strega A yellow, sweet, perfumed (herb), after-dinner cordial

streichleberwurst A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from fine or medium chopped, medium seasoned beef, pork, and veal and stuffed into beef, pork or artificial casings

streptococci Rows of cocci cells; beadlike; chainlike

Streptococcus Spherical or oval-shaped bacteria of genus *Streptococcus*, occurring in chains; some are pathogenic; responsible for early souring of milk; used in butter and cheese starters; produced 0.8–1% lactic acid

See Part 2: Bacteria, Molds and Yeasts; Food Poisoning, Bacteria; Illness from Food; Infectious Agents; Infections Diseases, Food-Borne; Intestinal Microorganisms, in Triple-Sugar Agar; Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Spoilage, Carbohydrate Foods; Spoilage, Fat in Food; Spoilage, Protein Foods; Thermophiles

streptomycin An antibiotic agent obtained from *Actinomyces griseus* and active against a variety of gram-negative and some gram-positive bacteria. It is very useful in controlling fire blight in pome fruit.

See Part 2: Antibiotic Standards; Wastes, Agricultural and Industrial

streptose agar See Part 2: Microbiological Media

stress 1) An unusual physiological or psychological force; adverse conditions that disrupt the normal functioning of the body. 2) A stimulus, such as pain or fear, that disturbs normal physiological equilibrium. 3) A mechanical force per unit of area

See Part 2: pH, Post Mortem

730 stretch

stretch To draw out; lengthen; extend; elongate

striated (voluntary) muscle A skeletal muscle tissue that has parallel cross stripes (striations) that may be seen under a microscope. There are two types:

White (based on gross color)—shorter twitch, time-faster; can be extremely active but fatigues rapidly

Dark or red (based on gross color)—contracts slowly but can sustain activity; has greater oxygen uptake; higher sarcoplasmic-myofibril ratio; more myoglobin; large energy phosphate supply; higher glycolytic capacity

strike price The price that the buyer and seller of an option have agreed upon for the futures contract. Various strike prices are offered on options and their different premiums are a reflection of whether the strike prices are below, at, or above the current selling price for the commodity. Strike prices are set by the Exchange at predetermined times

string cheese A mild, fresh, soft or semisoft cheese pulled into strings and then wound

stringer See **spalen**

strip 1) A beef short loin (steak or roast) with the tenderloin removed. If the bone is removed it is called a boneless strip steak or roast. 2) One-half of a dried, salted, boned cod

See Part 2: Meat Identification; Pork Loin Cooking

strip chart Continuous recording equipment that monitors electrical impulses (e.g., thermometer thermocouples)

striped bass (rock; rock bass; rock fish; *Morone saxatilis*; *Roccus saxatilis*) A lean fish caught on the Atlantic and Pacific coasts. A light meat, light to moderate flavor, finfish prepared like salmon See **bass**; **sea bass**

striped mullet (*Mugil cephalus*) A food fish See **mullet**

striped tuna (skipjack) A food fish

stripe rust (*Puccinia striiformis*) A disease (parasitic fungi) of the wheat leaf; causes fewer heads and shriveled seeds

stripped cap Results when cap lugs have passed over glass lugs due to too much closure torque. May have vacuum but no security value

stripping Last milk removed during milking

strip steak (top loin) Often called New York strip steak or Kansas City steak. A steak from the loin strip

stroboscope An intermittent source of light whose frequency can be controlled to coincide with movement of machine parts

stroganoff A dish of beef sautéed with onion, prepared with a sour cream sauce, mushrooms, and seasoning. Originated in Russia

stroganoff, sauce

Composition	Dehydrated	Dehydrated, prepared with milk and water
Moisture (%)	4.6	78
Protein (%)	12.1	3.9
Fat (%)	9.5	3.6
Carbohydrate (%)	57.7	11
Fiber (%)	1.3	0.2
Ash (%)	16.1	2.8

stroma Framework connective tissue of an organ. The salt-insoluble protein fraction of muscle

strontium (Sr) A metallic element; at. no. 38; at. wt. 87.63; Group IIA of Periodic Table; electron configuration 2-8-18-8-2 orbit K L M N O

oxidation state +2.

See Part 2: Grain Analysis

struck through When salt has penetrated to the center of tissue

structural formula A chemical formula that indicates the geometric contour of an organic compound and the relationship of its constituent atoms

structured scale A scoring system used in preference evaluation that includes numbers and descriptive words

strudel A confection made from paper-thin, flaky, almost transparent dough that is filled with a variety of sweet or savory material (e.g., apple, fruit, or cheese)

strychnine (C₂₁H₂₂N₂O₂) A highly toxic alkaloid used as a pest exterminator; derived from strychnos nuts

Stuart medium base See Part 2: Microorganism, Media

stubble The lower portion of herbaceous plant remaining after harvesting. The stalk of grain left in the ground after cutting

stuck Wine container
1 stuck = 264 gallons

stuck yolk An egg yolk that adheres to the shell membrane

stud To place seasoning into the surface of food

stuff To fill forcibly; to force-feed; to fill a cavity, e.g., fish, fowl, chops

stuffed Filled tightly

stuffed chops See Part 2: Pork Loin Cooking

stuffing (dressing) Dressing placed in meat, usually fowl.

Ingredients (many combinations):

Flavoring:

Garlic

Onion

Shallots

Fruit:

Apples

Cranberries

Pineapple

Prune

Herbs:

Celery tops
Parsley

Meat:

Oysters
Sausage

Seasoning:**Sharp Ingredients:**

Cucumber
Pickle

Starch:

Bread (base)
Chestnut
Corn
Cornmeal
Potatoes
Rice

Must be cooked to at least 165°F during roasting.
Storage of leftover: remove from bird; cool immediately and store separate from bird; use in 1–2 days

stuifin See **sprat**

stun To render unconscious; usually accomplished prior to slaughter by mechanical, electrical, or gas techniques See **stunning**

stunning Rendering an animal unconscious by voltage or with a captive bolt prior to humane slaughter See **stun**

sturgeon

Atlantic (common; *Acipenser sturio*)
Atlantic Sturgeon (*Acipenser oxyrinchus*)—
Western Atlantic; freshwater
Beluga (*Huso huso*)—Caspian Sea; Danube
Great (*Acipenser huro*)
Green (*Acipenser medirostris*)—Caspian Sea
Lake (*Acipenser fulvescens*)
Osetr (Russian; *Acipenser gueldenstaedtii colchicus*)—Caspian Sea; Danube
Sevruga (*Acipenser stellatus*)—Caspian Sea
Ship (*Acipenser nudiiventris*)
Shortnose (*Acipenser brevirostrum*)—Western Atlantic; freshwater
Shovelnose (*Scaphirhynchus platorhynchus*)
Sterliad (*Acipenser ruthenus*)
White (*Acipenser transmontanus*)

A salt and freshwater fish used for food; its eggs are called caviar; dried spinal marrow is called vesiga. Often up to 8 feet long; eggs $\frac{1}{10}$ inch in diameter and often comprise $\frac{1}{3}$ of the weight of the fish.

Consumed: fresh, dried, smoked, and canned

Type:

Freshwater
Live in saltwater but spawn in freshwater
Saltwater

Composition (raw): moisture 79%; protein 18%; fat 2%; ash 1%

See Part 2: Unsaturated Fatty Acids

styler-end breakdown A physiological condition in limes and lemons that causes a collapse of the rind frequently on the styler end. The first symptom is a grayish tan water-soaked spot at the base of the nipple that becomes darker with age and sinks below the tissue. There is tissue breakdown beneath this area, a water soaking of the core tissue, and develop-

ment of gum pockets. The tissue is then often invaded by other fungi

style A thread-like extension of the ovary of a flower terminating in the stigma

See Part 2: Flower, Perfect

styrax See **storax**

Styrofoam Proprietary name for a rigid polystyrene foam used for insulation

See Part 2: Insulation

su A vinegar

sub- Prefix meaning under or below

subacute A milder form of a disease or illness

subclover A winter annual grass

subcutaneous Beneath the skin; injected beneath the skin

subcutis The third layer of the skin that attaches it to the lower structures; it consists of collagenous and elastin fibers and fatty deposits

subgroup Generally a small group of sample units representing a portion of a sample

subjective Affected by personal bias or individual preference, as in a taste panel; a value that cannot be precisely measured; the opposite of objective

sublime 1) To pass from the solid to the gaseous state without formation of liquid. 2) To purify

sublime olive oil See **virgin olive oil**

subliminal Below the threshold

sublumbar See Part 2: Lymph Nodes, Ox; Lymph Nodes, Pig

submaxillary See Part 2: Lymph Nodes, Pig

sybmucous See Part 2: Intestine, Cross Section

subprimal Primal cuts of meat with most of the bone and other waste trimmed away; a subdivision of a primal cut usually by sectioning out whole muscles; e.g., top round, whole tenderloin, rib eye See **subprimal cuts**

subprimal cuts Cuts smaller than primal, used in the boxed beef programs; e.g., primal round is divided into top, bottom, eye, and sirloin tip See **subprimal**

subscapularis A muscle of the chuck located medial to the scapula

subsidy A government payment

subsoil (deeper soil) The soil below plowed or cultivated area

substance An element or a compound; broad definition also includes mixtures

substituent An element or group replacing hydrogen

substitution Replacement of one atom or group by another in a chemical reaction; e.g., in phenol a hydroxyl group is substituted for the ortho hydrogen atom of benzene

substrate A substance acted upon by an enzyme or ferment; media on which microorganisms may be grown

subterranean clover (*Trifolium subterraneum*)
A pubescent annual that resembles white clover

subtilin An antibiotic from *Bacillus subtilis*

subtle A delicate blend of flavor; no flavor predominates

sucaryl A trade name for an artificial sweetener (sodium cyclamate)

succinic acid ($\text{HOOC}-\text{CH}_2-\text{CH}_2-\text{COOH}$) An organic acid found in food and sometimes used as an additive; melting point 185–190°C. Odorless but has a strong, acid taste. Used as a food neutralizing agent or buffer or to retard plant growth

Storage: tight container

See also **acidulant**

See Part 2: Acidulants; Maple Syrup Composition; Normal Solutions; Organic Acids in Fruits and Vegetables

succinic anhydride See Part 2: Acidulants

succinylated monoglyceride Used as a food emulsifier; dough conditioner, surfactant

Storage: tight container

succory See **chicory**

succotash A mixture of 50–75% whole kernel corn (sometimes cream style) and 25–50% lima or green beans. May be with or without tomatoes.

1 cup, frozen, boiled, drained = 6.6–6.8 ounces
pH 6

succulence Plants that are appetizing to animals

succulent Juicy

suc de monbazillac Yellow- and green-colored types of herb liqueur

sucker 1) Buffalo fish (*Ictiobus* spp.), quillback (*Carpoides cyprinus*), redhorse (*Moxostoma* spp.), white, common white, buffalo fish (*Catostomus commersoni*); a North American, freshwater, food fish. 2) Candy on a stick. 3) Shoots arising from roots or the lower part of a plant stem See **sucker, white**

sucker, white (*Catostomus commersoni*) A moderately high-fat, white flesh, food fish See **sucker**

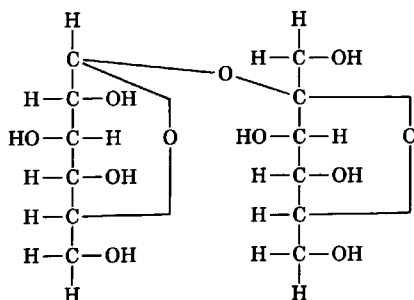
suckle To nurse

sucrase A carbohydrate digestion enzyme that converts sucrose into glucose and fructose See also **invertase**

sucrol A sweetening agent 200 times as sweet as sucrose

See Part 2: Sweetening Agents; Sweetness of Sweeteners

sucrose (saccharose) A carbohydrate made up of a molecule of glucose and a molecule of fructose; used as a sweetening agent and food.



Found in sugar cane (15–20%), sugar beet (10–17%), sugar maple, and some palm trees; often called cane sugar or sugar; does not reduce Fehling's solution. Used to sweeten food and as an ingredient in fermentation. The boiling point of sucrose solutions varies according to percentage of sucrose

Sucrose (%)	Boiling point (°C)
0	100
10	100.4
20	100.6
30	101.0
40	101.5
50	102
60	103
70	106.5
80	112.0
90.8	130.0

See also **sugar**

See Part 2: Concentrated and Dried Milk Products; Honey Composition; Lemon Juice Composition; Maple Syrup Composition; Milk, Concentrated Products; Sugar, Fruit; Sugar, Legumes; Sugar Solutions; Sugar, Vegetables; Sweetening Compounds; Sweetness of Sweeteners; Water Activity, Organisms and Food

suction filtration Filtration in which a vacuum is used to increase the filtration speed

Sudan grass An annual grass used for grazing and hay; seeding 32–40 lb per bu; 10–40 lb/acre; pH 5–5.5. Harvest when heading out

Variety	Maturity	Resistance	Where grown
Greenleaf Piper	Late Early	Low Low	Midwest Northern cornbelt and northeast
Georgia 337	Late	High	South

See **sorghum**

See Part 2: Poisonous Plants; Seed, Germination

suede Leather made from the inner layer of sheep skin

suelwurst A moist, cooked, unsmoked Irish sausage made from coarsely chopped, heavily seasoned pork and stuffed into artificial casings

suero A ricotta-type cheese made from cow's buttermilk

suet Fatty tissue, especially kidney fat or scrotal (cod) fat, about 4% of a choice steer carcass; when rendered it yields tallow; hard fat surrounding the kidney and loins of beef and mutton

Physical properties: beef suet smoke point 235–245°F; iodine number 30–45; melting point (beef) 45–50°C; mutton coefficient of digestibility 88%; mutton suet melting point 50°C; saponification number 190–195

Volume (chopped medium fine):

1 pound = 3¾ cups

1 cup = 120 grams (4.2 ounces)

Composition (beef kidney fat, raw): moisture 4%; protein 1.5%; fat 94%

See Part 2: Beef Retail Yield; Beef Wholesale Cuts; Oils and Fats Composition

Suffolk 1) A medium-wool, mutton-type breed of sheep originating in southeastern England; it was started by crossing the Southdown with the Old Norfolk; they have a jet black face with no wool on face or ears and no horns; their fleece grade is approximately $\frac{3}{8}$. 2) A white hog, probably of a small Yorkshire

See Part 2: Sheep Breeds

Suffolk ham A black, surfaced, country ham that is smoked in molasses

sufu Fruity, light, pale yellow or colored red, salty, molded cubes of soybean curd See **tofu**

sugar (sucrose) Cane and beet sugar are chemically the same

sugar A class name for sucrose and invert sugar

Coarse

Lump

Sanding—coarsely granulated

Fine granulated—principle sugar of commerce

Extra fine granulated

Berry or fruit or fruit powdered (not powdered)

Coating

Powdered (not crystalline, machine ground)

Coarse powdered

Standard powdered

XXXX or confectioner's

6X or special XXXX

Fine

Melting point 320°F (160°C); caramelization point 338°F (170°C)

Equivalents:

1 ton, raw sugar = 0.93 ton refined sugar

1 barrel = 350 pounds (lb)

$3\frac{1}{2}$ cups confectioner's sugar = 1 lb

$2\frac{1}{4}$ –3 cups, granulated sugar = 1 lb

2 – $2\frac{1}{4}$ cups, brown sugar = 1 lb

2 tbsp = 1 ounce (oz)

Substitution:

1 cup, granulated sugar

= $1\frac{1}{3}$ cups (lightly packed), brown sugar

= $1\frac{1}{3}$ cups, confectioner's sugar

= 1 cup, molasses + $\frac{1}{3}$ tsp, baking soda – $\frac{1}{4}$ less liquid

= 1 cup, syrup + $\frac{1}{3}$ tsp baking soda – $\frac{1}{4}$ less liquid

= 1 cup, honey + $\frac{1}{3}$ tsp, baking soda – $\frac{1}{4}$ less liquid

= $1\frac{1}{2}$ cup, maple syrup – $\frac{1}{4}$ less liquid

Composition: 99.9% pure; white, 1 tsp = 15 calories; granulated, 1 tsp = 15 calories; brown (packed), 1 tsp = 15 calories

Storage: at room temperature in tightly closed container (may be stored indefinitely)

Alteration for altitude See **altitude**

See also **sucrose**; **sweeteners**

See Part 2: Altitude Adjustments for Baking; Bananas, Composition; Brix Table; Brix, Temperature Correction; Calories, Daily Recommendations; Food, Composition; Fruit, Dried, Simmering; Fruit Sauces; Fruit, Simmering; Honey Composition; Lemon Juice

Composition; Lime Juice Composition; Microbiological Media; Minerals (Trace), Limits; pH, Post Mortem; Storage, Dry; Storage Times; Sugar Cane Composition; Sugar, D-Aldehyde; Sugar, Fruit; Sugar, Legumes; Sugars and Sweetens Composition; Sugars and Syrups Composition; Sugar Solutions; Sugar, Vegetables; Sweetening Agents; Sweetening Compounds; Sweetness of Sweeteners; Wheat and Flour Composition; Wheat, Carbohydrate Composition; Wheat, Parts of Grain; Wine, Sugar Addition

sugar agar See Part 2: Microorganism, Media; Microorganism Reactions on Differential Tube Media

sugar alcohol Alcohols that have a sweet taste but are chemically different from sugars; e.g., mannitol, sorbitol, and xylitol

sugar and maple syrup (cane and maple syrup) A mixture of sugar syrup (more) and maple syrup (less)

Grade	Sugar syrup (%)	Maple syrup (%)
Best	75	25
Medium	80	20
Standard	85	15

sugar apple (*Annona squamosa*) A small tree that produces a fruit with soft pulp and many seeds similar (except aroma) to the cherimoya See **annonaceous fruit**; **custard apple**

See Part 2: Fruit Storage

sugar, Barbados (moist sugar; dark brown sugar) A dark (almost black), soft and moist, coarse-grained brown sugar

sugar, barley A sugar that has been slowly melted and cooled to form an amorphous mass

sugar beet (*Beta vulgaris cicla*) A cone-shaped, white beet (2–10 pounds; average 2 pounds) that grows in temperate climates and yields 15–20% sugar; matures in 130–140 days; tops and pulp used for cattle feed; molasses is also used for cattle feed and manufacture of industrial alcohol; filter cake used as a fertilizer.

2 large roots = 1 cup, sugar + $\frac{1}{2}$ cup, blackstrap molasses

Composition: moisture 3.7%; sucrose 86.5%; invert sugar 8.8%; ash 1%; pH 4.2–4.4

See Part 2: Minerals, Food; Nutrients in Crops; Pectin Content; Sugar Beet Yield

sugar beet crown borer Dirty white larvae with a distinct greenish tinge found in silken tubes, 2–6 inches long radiating out from the beet crown just under the soil surface. Larvae remain in tubes during daylight hours and come out and feed on beet crowns at night. Full grown larvae are $\frac{3}{4}$ inch long. No satisfactory control is known

sugar beet root aphid Pale yellowish insect found on roots surrounded by a white moldlike substance. May be found in all sizes up to $\frac{1}{8}$ inch long. Feeds by sucking sap from roots, causing leaves to become light or yellowish green, wilt, and often die

sugar beet root maggot Larvae of shiny black fly, $\frac{1}{4}$ inch long, with transparent wings. Maggots are $\frac{1}{4}$ – $\frac{1}{3}$

734 sugar beet root maggot

inch long, tough skinned, and firm to the touch.
Found on roots of wilting or drying beets
Control: aldicarb, diazinon, fensulfothion, fonofos, or phorate

sugarberry See **hackberry**

sugar, boiling

Stages	Temperature (°F)	Use
Short or small thread	115–220	Butter cream, water ice
Long thread, large thread, feather	225–230	
Soft ball, small ball	240	Frosting
Hard ball, large ball	245–250	
Small crack	310	
Hard crack	325	Dipping fruit
Caramel	380–390	
Black jack, burnt caramel	400	Coloring

sugar, brown (soft sugar) Semirefined (or highly refined mixed with filtered refiner's sugar) sugar that contains molasses, ash, and moisture; adds color and flavor to cooked items; less sweet than granulated sugar.

Types:

Less intense molasses flavor (sweeter)

Yellow—milder flavor

Golden brown

Light brown

Brownulated-granulated

Dark (old-fashioned)-stronger flavor

More intense molasses flavor (less sweet)

Firmly pack; keeps shape of cup when emptied for measuring

1 cup, brown sugar = $1\frac{1}{3}$ cup, granulated, brown sugar

1 cup, brown sugar, packed = 1 cup, granulated

3 cups = 1 pound (lb)

$2\frac{1}{4}$ cups, light = 1 lb

1 cup, light = 200 grams [g; 7.1 ounce (oz)]

2 cups, dark = 1 lb

1 cup, dark (packed) = 210 g (7.5 oz)

1 cup = $5\frac{1}{3}$ oz

1 tbsp = $\frac{1}{3}$ oz

1 tsp = $\frac{1}{9}$ oz

Composition: moisture 2%; carbohydrate 96%; ash 1.5%; sucrose 91–96% See **sugar, Barbados**; **sugar, demerara**

sugar, candy (coffee sugar; rock candy) Large (2.5 cm) clear to deep brown (sometimes dyed) sugar crystals often formed on a string

sugar cane (*Saccharum officinarum*) Origin India, eastern and southeastern Asia. A perennial grass (Cuba, Hawaii, Louisiana, Puerto Rico) that produces sap from which sugar is made. Plant requires 50 inches per year of moisture and temperatures of 70–95°F. Harvest just prior to flower formation; should be milled within hours after cutting. Planted by stem cuttings or sets and can be harvested in

approximately 1 year; new stems, called ratoons, grow from the cut root and can be harvested in 1 year; yield decreases and new plantings are made about every 4 years; stem contains 65–80% juice (pH 5.2–6.2), which contains 20–21% sucrose

1 gallon cane syrup = 5 pounds, sugar

Waste is used as insulating board (Celotex) and fuel

Composition	Stems	Juice	Sugar
Water (%)	75	85	0.9
Protein (%)	0.6	0.1	—
Fat (%)	0.4	0	—
Sugar (%)	13	14	97 (sucrose) 1% invert
Cellulose, lignin, pentosans (%)	10	0.6	—
Ash (%)	0.6	0.4	0.6

See Part 2: Nutrients in Crops; Sugar Cane Composition; Wax

sugar cane brandy Rum

sugar cane fiberboard See Part 2: Insulation

sugar cane syrup (cane syrup) A syrup made by concentrating sap of the sugar cane; max. 4.5% ash in unsulfured; 6% ash in sulfured; max. 30% moisture
See also **top syrup**

sugar cane wine An alcoholic wine made from sugar cane juice

sugar, caster (sugar castor; sugar, superfine)

Table sugar whose crystals are smaller than granulated sugar See **sugar, castor**; **sugar, superfine**

sugar, castor (caster) Superfine (0.5 mm) sugar See **sugar, caster**; **sugar, superfine**

sugar, coffee Large crystals that dissolve slowly and gradually sweeten

Types:

Light brown

Mixture of colors

White

sugar, confectioner's See **sugar, powdered**

sugar cookie

$2\frac{1}{4}$ inch, cookie = 35 calories

Sodium 108 mg per cookie (26 grams)

sugar, corn (dextrose of glucose) Obtained by crystallizing hydrolyzed cornstarch. It is $\frac{3}{8}$ as sweet as sucrose; color is light brown or pale yellow. Sold as lump or granular

sugar cube (sugar lump) Moist sugar placed in molds and dried; 80–200 per pound. All sides are smooth; dissolves quickly

sugar, cut tablets Sugar molded in slabs and cut. The two long sides are rough due to cutting

sugar, demerara Raw, light amber, crystal sugar in which only the coarse impurities have been removed

sugar, foot Raw sugar, containing large quantities of molasses; coarser than Barbados; a very unrefined, almost black sugar

sugar-free agar See Part 2: Microbiological Media

sugar, frozen fruit

Designation:

3 + 1—3 parts fruit and 1 part sugar

4 + 1—4 parts fruit and 1 part sugar

5 + 1—5 parts fruit and 1 part sugar

sugar, granulated Most common type of white sugar; sugar crystals up to 0.05 cm in length

Regular—uniform in granulation

Extra fine—smaller crystals

1 cup = 200 grams (7.1 ounces)

2½–3 cups = 1 pound

Composition: moisture 0.5%; carbohydrate 99.5%

Storage: 50–80°F, relative humidity below 60%; storage life 1–2 years

sugar, granulated, finest Sparkling crystals that are more uniform and smaller than granulated sugar**sugar, icing** See **sugar, powdered****sugar, invert** See **invert sugar****sugar, light brown (sugar, soft)** Sugar that looks like slightly damp sand**sugar liquor** Partially concentrated sugar solution**sugar, loaf** Made by processing wet sucrose into a cake; when hard it is cut into a cube or tablet, which is called lump See **pineapple****sugar, lump** White sugar compressed into lumps See **sugar cube**; **sugar, solid****sugar, maple** Maple sap concentrated into syrup and sugar by long boiling; the concentrated thick syrup is whipped (5–10 minutes) and poured into molds to harden into sugar; light brown in color. The average tap hole produces 8–15 gallons of sap that averages 2.5% sugar; tapping time February 15 to March 25. Produced in New Hampshire, New York, and Vermont

Types	Boiling point (°F)
Sugar on snow	234
Soft sugar	235
Hard sugar	239
Indian or crumb	250–252

Composition: moisture 4%; sucrose 86–99%; invert sugar 0–9%; ash 1%

See also **maple syrup sugar****sugar maple (*Acer saccharum*)** An excellent firewood; 24 million Btus/per cord (20% moisture); difficult to start; easy to split; light smoke; excellent coals and few sparks**sugar millet** See **sorghum grain****sugar pack** Sugar added directly and gently mixed with food; sugar is added to food, usually prior to freezing, to draw juice**sugar palm (*Arenga saccharifera*)** A palm that produces sugary sap (3 pints per day for 7 weeks) when it is tapped; the sap is concentrated by boiling to produce a dark brown sugar See **palm****sugar pea (mangetout, edible-podded pea)** Peas that have tender pods and can be eaten whole when young and still flat; have a “string” along the top and

base of the pod that along with the stem should be removed prior to cooking

sugar pear See **service berry****sugar, powdered (confectioner's sugar; icing sugar)** A very fine, pulverized, and fine silk-cloth-sifted sugar. White textured sugar used for icings and pastries; contains a small amount of cornstarch (3%) as an anticaking agent

Types:

Dessert powdered

Extra fine powdered—finely pulverized sugar

Sprinkle sugar

Superfine powdered

Confectioner's (confectioner's XXXX)—very finely pulverized sugar

Absorbs moisture rapidly

3–4 cups, unsifted = 1 pound (lb)

1 cup, unsifted = 125 grams [g; 4.3 ounces (oz)]

4½ cups, sifted = 1 lb

1 cup, sifted = 95 g (3.4 oz)

1½–1¾ cup, confectioner's, sifted
= 1 cup granulated

1 tbsp = ⅓ oz

1 tsp = ⅒ oz

Composition: moisture 0.5% carbohydrate 99.5%

See **sugar****sugar, preserving** White, irregular-shaped crystals up to 1 cm in length**sugar, preserving crystal** Crystals sized between granulated and coffee that do not settle as quickly and cause little frothing**sugar, pressed tablets** Moist sugar placed in molds and dried See **sugar, cube****sugar, raw** Unrefined crystalline sugar; contains the molasses portion that makes it dark (tan to brown), coarse, and sticky; obtained from evaporation of sugar cane sap

1 ton = 0.93 ton, refined sugar

sugar, sand (sugar, soft) Pale brown, moist sugar**sugar, soft (light brown sugar; sand sugar)** See **sugar, light brown; sugar, sand****sugar, solid** Also called cube, small cube, sugar lump, and tablets. Some dissolve faster than others; all have the same sweetening power See **sugar, cube****sugar, spun (candy floss)** Weblike sugar used to decorate food; sugar and water cooked to the brittle stage and worked into fine threads**sugar, superfine (castor)** Very fine sugar that dissolves quickly See **sugar, castor****sugar syrup** See **simple syrup****sugar, turbinado** Produced by washing raw sugar crystals with steam to remove impurities and most of the molasses**sugar vinegar (cane sugar vinegar; cane vinegar)** The product made by the alcoholic and subsequent acetous fermentation of sugar syrup, molasses, or refiner's syrup; a derivative of sucrose**suggested practical allowance** Intake that will meet the needs of a great majority of a defined population

sugiki A thick chicha made from maize

suimono A clear soup

suint A substance found in wool; it is associated with wool grease but is water-soluble

suitable for regulatory use An analytical procedure that:

Generally requires no more than 2 hours of analytical time per sample to perform

Requires no instrumentation not customarily available in a residue laboratory

Meets the criteria for an FSIS Official Method

Has an MPL at or below the tolerance or action level

suki Thin sliced

sukiyaka Thinly sliced or fried

sulfate group The SO_4 group; when ionized it becomes the sulfate ion or radical SO_4^{--}

See Part 2: Water Drinking Standards

sulfate of potash-magnesia A neutral fertilizer material; K_2SO_4 ; MgSO_4 ; 0-0-22; 11% available magnesia (MgO)

sulfhydryl group SH group, characteristic of thiol (mercaptan) compounds

sulfide buildup The reaction of sulfur-containing meat and fish with iron of a container; causes discoloration

sulfite 1) An antioxidant often used on lettuce to prevent browning, avocado dips to prevent discoloration, French fries to prevent discoloration, and beer and wine to control fermentation; also used in some fruit drinks, dried fruit, and medications. May cause a reaction with some people (particularly those with asthma) such as a cough, wheeze, tightness of chest, shortness of breath, shock, loss of consciousness, and abdominal pain. 2) A stinker; cans do not swell because hydrogen sulfide is soluble in water; hydrogen sulfide is produced by *Clostridium nigrificans*

sulfite agar See Part 2: Microbiological Media

sulfonic The $-\text{SO}_2\text{OH}$ group

sulfonic acid ($\text{R}-\text{SO}_2\text{OH}$) A hydrocarbon in which a hydrogen atom has been replaced by the sulfonic acid group $-\text{S}(=\text{O})_2\text{OH}$

sulfur (S) A nonmetallic element; at. no. 16; at. wt. 32.066; Group VIA of Periodic Table; oxidation states +4, +6, -2
electron configuration 2-8-6
orbit K L M

Body function: necessary for growth and reproduction; occurs in methionine, cystine, and glutathione. An ingredient of health tonics; present in eggs and cabbage.

Plant deficiency: causes reduced growth of shoots and leaves and leaf tenting or yellowing; stems become thin and woody

See Part 2: Egg Products, Nutritive Value; Fertilizer Materials; Lemon Juice Composition; Manure Analysis; Minerals, Food; Minerals, Plant or Animal Tissue; Nutrients in Crops; pH and Availability of Plants Nutrients

sulfur dioxide (SO_2) A toxic gas used as a preservative, disinfectant, or bleaching agent in some foods; is dissipated during boiling. Not permitted in meats or other sources of vitamin B_1 . It is obtained by burning sulfur or from compressed liquid; in water, produces sulfurous acid (H_2SO_3), bisulfite ion (HSO_3^-) and sulfite ion (SO_3^{--}); inhibits yeast, molds, and bacteria. Campden tablets yield SO_2 in the presence of fruit juice. Used as a sanitizing agent in wine making; to preserve color and flavor of dried fruit; to prevent darkening of color, and to act as an insecticide in fruit; sulfites restore bright color to stale meat products. Maximum permissible concentration of SO_2 in air is 5 ppm; causes photochemical smog. When dissolved in water,



See Part 2: Fumigants; Refrigerant

sulfuric acid (H_2SO_4) The highest-volume chemical produced in U.S. Mol. wt. 98.08; eq. wt. 49.04

Mole per liter	Commercial strength			
	Gram per liter	% by wt	Specific gravity	Normality
18.0	1766	96	1.84	36.0
—	—	94	1.831	35.1
		Beaumé (Be)	% H_2SO_4	
		60	77.67	
		66	93.19	
		Milliliters of 94% H_2SO_4 to dilute to 10 liters	Approx. normality	
		2.8	0.01	
		5.7	0.02	
		28.4	0.10	
		141.8	0.50	
		283.5	1.00	

Storage: tight glass container

See Part 2: Concentration of Commercial Strengths of Acids and Bases; Normal Solutions; Reagents, Normal Solutions; Sulfuric Acid Solution

sulfuric acid, fuming (H_2SO_4) Containing various percentages (10-70%) of free SO_3

sulfurous acid (H_2SO_3) Aqueous solution of sulfur dioxide

See Part 2: Concentration of Commercial Strengths of Acids and Bases

sulfur trioxide (SO_3) The anhydride of sulfuric acid; toxic

See Part 2: Normal Solutions

sulle spale A short maturation, hard cow's milk cheese

Sullivan See Part 2: Protein and Amino Acid, Color Reactions

sulphur See sulfur compounds

sultana (raisins, seedless white; seedless raisins)

A small, usually white, very sweet, seedless raisin; dried fruit of a white seedless grape.

Grape type: Sultana grape and Thompson seedless grape

Composition (dry): protein 1.7%; available carbohydrate 65%

sultana bread A tea bread with sultanas

szulze A coarsely chopped to chunked, cooked, unsmoked, American, jellied and/or specialty sausage available in links, loaves, or canned; a moist, cooked, unsmoked jellied western German sausage made from coarsely chopped, medium seasoned pork and not stuffed into casings *See* **souse**

szulzfeischwurst A moist, cooked, unsmoked eastern German sausage made from medium chopped, medium seasoned pork and stuffed into pork or artificial casings

sumac A plant used in tanning, dyeing, and as a bitter flavoring with grilled meat

Sumatra mandeling A balanced, mild, mellow Indonesian coffee

summation To add; the sign Σ is used in statistics to indicate the addition of quantities

summer coating A mixture of vegetable fat, milk solids, sugar, and vanilla that looks like white chocolate

summer dwarf (*Aphelenchoides besseyi*) A disease of strawberries that is caused by nematodes that live inside leafbuds

To prevent: plant only stock that is free of dwarf nematodes

summer flounder (*Paralichthys dentatus*) A white meat, very light delicate flavor, finfish used for food

Summer Food Service Program for Children Provides meals for children during extended school vacation periods *See* **Child Nutrition Programs**

summer sausage A finely chopped (sometimes coarse ground) sausage that is either semidry or "fresh-out-of-smoke"; it was originally produced in winter for summer use. A dry sausage originating in Germany made from pork and beef: it is seasoned (2½ pounds of salt per 100 pounds of meat), reground, and cured in thin trays for several days; it is stuffed into casings, smoked or cooked, and aged in a cool place for several weeks

Composition: moisture 48%; protein 16%; fat 30%; carbohydrate 2.3%; ash 3.7%

See **cervelat; dry and / or semidry sausage**

See Part 2: Sausage Identification; Sausage Nutritive Value

summer sausage, tangy An all-pork, heavily smoked, zesty-flavored, summer sausage

summer sausage, Viking A moderately smoked summer sausage in an artificial casing

summer savory The fresh or dried leaves of an annual (60 days) plant (1 ft tall) used in flavoring

summer topping The removal of terminal or tip growth on new shoots to stimulate branching

Sumner, J. B. A biochemist who purified and crystallized urease

sum of squares (ΣX^2) Values are squared and then summed; sum of squares (corrected) of deviations from sample mean (Σx^2)

$$\Sigma x^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{n}$$

or

$$\Sigma x^2 = \Sigma X^2 - \bar{X}(\Sigma X)$$

or

$$\Sigma x^2 = \Sigma X^2 - n\bar{X}^2$$

sum-sum Sesame

sunburn 1) Describes a damaged area of citrus fruit rind that may be pitted (collapse of the oil gland), hard, flat, and yellow or paler than the rest of the rind; the region under the effected area may be dried out and contain little juice. Sunburned fruit is often attacked by decay organisms. 2) Describes tomatoes that show green or yellow areas near the stem scar. 3) Describes potato skins that have turned green.

sun-checking The cracking of grain due to remaining in the field after it reaching maturity

sunchoke *See* **Jerusalem artichoke**

sun-cured Dried by exposure to sun and open air

sundae An ice cream dish, often made with several flavors of ice cream, topped with flavoring, syrup, fruit, nuts, chocolate, and/or whipped cream

sun-dried food A food dried without the use of artificial heat, e.g., apricots, and fish, raisins

sunfish A general name that is applied to many different species of fish, such as fish of the families *Centrarchidae* and *Lamprididae*, *Eupomotis gibbosus*, *Lepomis* spp. (North American freshwater fish, including the bluegill), and *Mola mola* (Europe) and other fish of the family Molidae. 1) Freshwater fish of the perch family. 2) Any of several large marine fish *See* **perch**

sunflower A plant (*Helianthus annuus*) grown for seed, animal feed, and oil; a member of the daisy family (grows to 5–20 ft tall)

Parts used:

Seed head—(3- to 24-in. diam., constitutes 50% of the dry matter of plant)

Seeds—constitute 50% of dry weight of dried head; 20–46% oil; parched seed may be consumed; used for human food, to produce oil, and as poultry feed

Oil cake—35% protein if made from whole seed; used for livestock feed

Stem and leaves—herb; used for fodder and silage
Tuberous root—used as human food (like an artichoke)

whole plant—source of paper and cloth; green manure

Young flowers—eaten like the bud of an artichoke

Classes:

Oil-seed class—plants produce smaller and darker seeds than garden-class plants; high in oil and low percentage of hull

Confectionery or garden—easy to decorticate

738 sunflower

Varieties:

Grey Stripe—8 to 12-ft plant; produces large (20 in.) seed head; season 80 days

Mammoth—tall plant; produces huge seed head with thin-shelled, striped seeds; season 80 days

Miss Mellish

Soleil D'Or

Yield: 24–32 lb sunflower seeds per bushel

Composition (seed, dry) moisture 6%; protein 19–24%; fat 47–59%; carbohydrate 12–20%; ash 4%

See Part 2: Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fats and Oils, Characteristics; Fatty Acids, Fats and Oils; Iodine and Saponification Values; Oil Meals, Composition; Oil, Triglyceride Mole Percent Composition; Pectin Content; Protein Factors; Pulses, Nuts, and Seeds, Composition; Refractive Indices, Fats and Oils; Seed, Chemical Composition; Seed, Germination; Specific Gravities, Fats and Oils; Titer, Fats and Oils; Tocopherols; Unsaponifiable Matter

sunflower meal can be used as textured vegetable protein

Composition	From dehulled seeds	
	Mechanically extracted	Solvent-extracted
Dry matter (%)	93	93
Protein (%)	41	46
Fat (%)	8	2.9
Fiber (%)	12	11
Ash (%)	6.5	7.6

sunflower oil A pale yellow, nearly odorless oil extracted from sunflower seed (30–45%); used as food, salad oil, and in making candy and margarine

Composition (fatty acids): linoleic 66–75%; oleic 14–25%; palmitic 5–7%; stearic 2–3%

Properties:

Acid number—2.76

Iodine value—125–136

Melting point—18 to –16°C

Refractive index (15.5°C)—1.474–1.478

Saponification value—185–195

Saturated fatty acids—8–14%

Specific gravity (20°/4°C)—0.9207

Titer—16 to 20°C

Unsaponifiable matter—1.5%

sunflower seed The dried seeds are often soaked in salt brine and roasted in an oven (nutlike flavor) and are sold by nut vendors as a snack; roasted and used as a coffee substitute; also used as a source of oil

Yield; 60 bu/acre

1 metric ton = 400 Kg oil

= 350 Kg meal

= 200 Kg hulls

1 bu = 1 gal oil

Composition	Meal		
	Kernels	(dehulled seeds)	Whole seeds (with hulls)
Moisture (%)	6		6
Protein (%)	24	50	20
Oil (%)	55	4	46
Carbohydrate (%)	12	36	25
Minerals (%)	4	8	4

See Part 2: Beans, Peas, and Nuts

sunkarica A moist, cooked, unsmoked Yugoslavian sausage made from coarsely chopped, mildly seasoned pork stuffed into 44–47-mm beef or artificial casings

sunki Pickled turnip

sunlight flavor An off flavor of milk, caused by sunlight accelerating the breakdown of methionine in the presence of vitamin B₂

sunshine cake An unshortened cake containing eggs (more whites than yolks), flour, sugar, and salt; air beaten into the eggs produces the leavening.

sunshine vitamin See **vitamin D**

sun valley cheese A soft, creamy, rich cheese

suomurain See **lakka**

sup Soup

supercarbonate Bicarbonate

superficial Near the surface

superheated A liquid or gas heated above the liquid-state boiling point, superheated (water) steam (steam at atmospheric pressure and temperature 100°C or higher) overheated

superior Above; higher than See also **cranial**

superovulate To cause more than one ovum to be shed at the same time

superphosphate A neutral fertilizer material that is primarily calcium dihydrogen phosphate [Ca(H₂PO₄)₂]; 0-18-0 or 0-20-0; rock phosphate that has been treated with sulfuric acid

Types:

Basic superphosphate—superphosphate mixed with lime

Complex polyphosphate—high levels of phosphorus and nitrogen; a slow-release fertilizer

Molybdenized superphosphate—0.03–0.06% molybdenum trioxide added to superphosphate

Single superphosphate—a mixture (acid) of phosphate and gypsum (9.6% phosphorus, 20–22% calcium, and 13% sulfur)

Triple superphosphate—contains a higher percentage of phosphorus; 1.5% sulfur

See Part 2: Fertilizer; Fertilizer Materials

supersaturated solution A solution that contains a greater concentration of a substance than would be present in a saturated solution (unstable system)

supper A light evening meal or late evening meal

supplement A feed that is usually high in some or all of the following: antibiotics; minerals; protein; vitamins

supplementary feeding program A program that attempts to provide free or low-cost food to supplement the diets of special population groups whose diet is deficient in nutrients and calories

supplementary payments Similar to deficiency payments

supply The quantity available for the current day's trading on the market; includes any carry over from the previous day

supply management A set of programs used to influence and control the supply of a commodity and to maintain a desired price

support buying An EEC trading term that allows direct purchases of specified commodities by an intervention authority

supra- Above or over, e.g., suprarenal

supraliminal Above the threshold

supramammary See Part 2: Lymph Nodes, Pig

suprarenal See **adrenal glands; gland weights**

supraspinatus A muscle of the chuck located lateral to the scapula and above the spine of the scapula

suprasternal See Part 2: Lymph Nodes, Ox

supreme An excelsior-type cheese

sura Sorghum beer

surati A panir-type cheese made from buffalo's milk sometimes matured up to 2 weeks

sureau A brandy made from elderberries (*Sambucus nigra*) macerated and soaked in natural brandy

surface The boundary of a geometric solid
 Surface of a sphere = $4\pi r^2 = D^2\pi$ ($\pi = 3.1416$)
 Lateral surface of a right cylinder = $2\pi rh$
 Total surface of a right cylinders = $2\pi rh + 2\pi r^2$
 Lateral surface of a right cone = πrs (s = slant height)
 Total surface of right cone = $\pi rs + \pi r^2$

surface-active agent (surfactant; wetting agent) A molecule one portion of which is hydrophobic and another portion of which is hydrophilic; such a substance is active at the interface, reducing the surface tension and increasing spreading and wetting properties. See also **detergent; wetting agent**

surface color Color that can be measured by reflectance

surface rot (*Fusarium oxysporum*) A disease that causes circular sunken spots to appear on sweet potatoes during storage

surface tension A phenomenon resulting from the attraction exerted by the interior molecules of a liquid upon its surface (sometimes called internal pressure); this reduces the tendency of the liquid to flow. Water has rather high surface tension compared to organic liquids such as alcohols. Mercury has the highest surface tension of any liquid. Detergents act by reducing surface tension.

surface treatment The application of outside lubrication to glass containers to aid in handling

surfactant A material that aids in surface-modifying properties; compounds that make it easier to effect contact between surfaces

Classifications:

Detergents

Dispersants

Emulsifiers

Foaming agents

Spreading agents

Stabilizers

Viscosity modifiers

Wetting agents

See **surface-active agent**

surf smelt See **smelt**

surge tank A pressurized, sterile container used to store cooled, sterile product

surimi A mechanically deboned, washed, and stabilized fish protein paste; salt-soluble muscle protein from fish

surinam See **pitanga**

surinam cherry (Brazilian cherry) A large ($\frac{1}{2}$ –1 in.), red, soft, acid cherry that is eaten fresh or preserved

surnone A thick pancake made from rice, coconut, and buttermilk

surprim A sour-milk cheese made from whey

surstromming Strong, salted fish used for seasoning

surveillance A subprogram of the (FSIS) National Residue Program that deals with specific problem areas where adulterating levels of residues are suspected; involves sampling and analysis of particular carcasses and/or products; the resulting data are used to investigate and control the movement of potentially adulterated carcasses and/or products.

survey of nutritional status The investigation of population groups to determine their states of nutrition

sushi 1) A dark, salty, fermented, fish paste. 2) Non-fermented canapes. 3) Rice, vegetables, and fish served with a vinegar sauce

suspect Describes a carcass or sample believed to be abnormal or inferior; the item is usually retained for further analysis.

suspending agent A substance that causes particles to mix but remain undissolved in a liquid or solid

suspension A colloidal system in which a solid is dispersed in a liquid, e.g., muddy water

Sussex 1) An English class of chickens with white skin, single-comb, and white shanks; lays a brown-shelled egg

Varieties: Light; Red; Speckled

2) A dark red (with white tail tip), large, hardy, British breed of beef animal

Sussex pudding Blackberries cooked in cider

susumber An acid Jamaican berry

suwalska A moist, cooked, smoked Polish sausage made from coarsely chopped, medium-seasoned, beef and pork, with plasma, stuffed into beef or artificial casings

su-zuke Pickled fish

Suzuki Umetaro The person who isolated nicotinic acid

svapski A ricotta-type cheese, with herbs, made from cow's milk and usually eaten fresh

svargla A moist, cooked, smoked or unsmoked Yugoslavian sausage made from coarsely chopped, medium-seasoned pork stuffed into 66–75-mm pork or artificial casings

svectia A cheddar cheese (in large wheel shapes) made from partially skimmed milk, resulting in a lower fat content

svectiaost cheese An aged (6 weeks to 6 months), dry-salted Swedish cheese that is made from whole cow's milk, and has a granular texture with small irregular holes; may be flavored with cloves and caraway

svinabjugu A moist, cooked, smoked Icelandic sausage made from medium-chopped, medium-seasoned beef and pork, with pork fat added, stuffed into artificial casings

svinemorr A moist, cooked, unsmoked Norwegian sausage made from coarsely chopped, medium-seasoned beef and pork stuffed into beef casings

svinina Pork

swab A wad or bundle of fabric or cotton; used for wiping a surface to obtain a specimen or sample, often for microbial examination

swab test A microbiological, antibiotic, screening test

Swaledale A hill breed of British sheep similar to the Scottish Blackface

Swaledale A blue cheese made from sheep's or cow's milk

swampbuster bills Refers to legislative restrictions on the draining of natural wetlands

swarri nut See **souari nut**

sweat 1) An exudation from body pores. 2) Fat-steaming (to cook gently in fat). 3) To bond together by heating surfaces to which solder has been applied
See Part 2: pH Values of Biological Materials

sweating The condensation of moist air onto cold containers

swede (rutabaga; Swedish turnip; turnip-rooted cabbage; *Brassica napobrassica*; *B. napus*)

The root of a plant (Swedish turnip) used for food; 10,000 seed/oz; germination period 2–20 days; a biennial turniplike plant grown for its root, which consists of both the hypocotyl and the base of the swollen leaf stem; it may be purple-white or yellow, with yellow or white flesh that is firmer (less moisture) than a turnip; used in stews, mashed, or used as livestock feed

Varieties: Great Scot; Lord Derby; Purple Top; Tipperary

Composition: protein 1%; fat 0.01%; carbohydrate 4.3%
See **rutabaga**

See Part 2: Nicotinic Acid, Food; Vegetable Composition

swedish meatballs Small, fried balls made from beef mixed with bread crumbs, milk, onions, eggs, and seasoning, with gravy poured over the balls, which are then simmered

Swedish sausage See **goteborg**

Swedish turnip See **swede**

sweet The taste sensation of sucrose (sugar) or honey
See Part 2: Flavor Ingredients, Taste and Flavor Type; Sugars and Sweets, Composition; Sweetening Agents; Sweetening Compounds; Sweetness of Sweeteners; Water Activity, Organisms and Food

sweet and sour A description applied to various dishes that may be made with chocolate, raisins, soy sauce, sugar, or vinegar

sweet and sour dressing A dressing made from celery, chives, green pepper, mustard, olive oil, pepper, salt, sugar, vinegar, and worcestershire sauce

sweet and sour sauce A sauce flavored with honey, sugar (sweet), and vinegar (sour); available as a dehydrated mix

Composition	Dehydrated	
	Dry.	Prepared with water and vinegar
Moisture (%)	0.6	76
Protein (%)	1.0	0.2
Fat (%)	0.1	0.02
Carbohydrate (%)	96	23
Ash (%)	2.2	0.5

sweet anise See **fennel**

sweet basil See **basil**

sweet bay See **bay leaves**

sweet biscuit An English cookie

sweetbread The thymus gland (soft and milky) of calves (the pancreas is also sometimes referred to as sweetbread)

Thymus—found in the throat; small; elongated

Very young cattle—2.5 lb

1000-lb steer—0.3 lb

Pancreas (stomach sweetbread)—found in the area of the heart (belly); round

To prepare: Soak in cold water; remove blood vessels and connective tissue.

Sodium content: 32 mg/oz (28 g)

See Part 2: Minerals, Food; Variety Meat, Cooking; Variety Meat, Percentage of Daily Recommended Allowances; Variety Meat Preparation; Veal Cuts and Uses

sweet cayenne pepper See **paprika**

sweet cherries See **cherry**

sweet chestnut (*Castanea sativa*) A large tree grown for nuts and timber; the nuts are used for human food and livestock feed, and they may be ground into flour, used in soups and stuffings, eaten whole, boiled, or roasted, and preserved in sugar or syrup.

1 lb shelled chestnuts = 1.2 lb, unshelled

Composition	Dried	Fresh
Moisture (%)	8	53
Protein (%)	7	3
Fat (%)	4	1
Carbohydrate (%)	79	42
Ash (%)	2	1

Sweet chestnuts have the lowest fat content, highest sugar content, and highest starch content of all nuts.

sweet chocolate A mixture of powdered sugar, vanilla, and warm chocolate paste

sweet cicely (myrrh; *Myrrhis odorata*) A perennial herb whose aromatic leaves are used for flavoring (aniseed flavor) in green salads, soups, and stews; the leaves and taproot are used in salads; the seeds are also used as flavoring.

sweet clover A biennial used for hay and as a green manure plant

White (*Melilotus alba*)

Yellow (*M. officinalis*)

Seeding 60 lb (hulled)/bu, 32 lb (unhulled)/bu; plant 8–10 lb/acre; pH 6.5–6.8; harvest at start of bloom.

Coumarin gives the forage crop its characteristic odor and taste. If mold growth occurs, the toxic substance dicoumarol (which reduces the clotting of blood) is formed. *See also* dicoumarol

sweet cooking chocolate Sold in a 4-oz bar containing 18 squares; rich and light flavor

sweet dough *See* Part 2: Fermented Ingredients

sweetened condensed milk A product made by evaporating about half the water from whole milk and adding sugar or corn sugar so that the final product contains 40–45% sugar (by weight); the sugar is added as a preservative, and the product will keep without sterilization. Marketed in 14-oz cans

1 lb sweetened condensed milk
= $2\frac{1}{2}$ – $2\frac{1}{2}$ lb fresh whole milk
+ 6.8 oz sugar
= $4\frac{1}{2}$ cups whole milk + 6.8 oz sugar
1 cup, canned = 10.8 oz
1 tbsp = 0.7 oz
1 fluid oz = 1.3 oz

Composition: moisture 27–28%; total solids 70%; protein 7–8%; fat 8.7%; carbohydrates 54–55%; total milk solids 28%; fiber 0%; ash 1.2%; milk fat 8.5% min.; sodium 389 mg/cup (306 g) water activity: 0.83

sweetened condensed skimmed milk Condensed skimmed milk sweetened with sucrose or dextrose; min. 24% milk solids

sweetener A sweet-tasting substance used to make the aroma or taste of a food more pleasurable or agreeable

Classification:

Nutritive—(e.g., sugars, which are metabolized to produce energy)

Non-nutritive—(e.g., saccharin, which is not metabolized and produces no energy)

sweetener (sausage) Maximum 2%: corn syrup; invert sugar; corn syrup solids; Sucrose (cane or beet sugar) is self-limiting.

sweetening agent A sweet-tasting substance used in foods

Comparative sweetness ratings (using sucrose as 100):

Sugars

Fructose—140–173

Sucrose—100

Glucose (dextrose)—70–75

Corn syrup [various dextrose equivalents (DE)]—64 DE, 65–70; 54 DE, 60; 42 DE, 50; 36 DE, 45; 28 DE, 40

Xylose—40

Lactose—16–35

Maltose—30–35

Synthetic (non-nutritive) sweeteners

Saccharin—55,000

Dulcain—25,000

Sucaryl—3000

Others

Glycerin—70

Glycine—70

sweet feed Feed that has molasses added

sweet fennel waedenswil Used in salads or cooked like celery or asparagus; has a licorice taste

sweet javril (sweet cicely; *Osmorhiza claytoni*)

A perennial herb with aromatic roots and leaves

sweet lemon *See* lime

sweet majoram *See* majoram

sweetmeat Confectionery made with sugar; fruit preserved with sugar

sweet oil *See* olive oil

sweet orange (*Citrus sinensis*) A medium-sized tree that bears a citrus fruit that is green to orange in color when ripe and has a sugary pulp; used as fresh fruit or as an orange drink *See also* citrus fruit

sweet pear *See* rock medlar

sweet pepper *See* capsicum; paprika

sweet pickle cure A pickle that contains sodium chloride and sugar dissolved in water and is used to cure meat; it will usually contain some nitrite and nitrate and often other ingredients.

sweet pickles Made from sour pickles by draining the vinegar and placing the pickles in a mixture of water, sugar, and spices

Types: candied chips; mixed; sliced; sweet dills; sweet relish; whole

See sour pickles

sweet potato (long potato: Spanish potato; *Ipomoea batatas*) A tropical creeping vine originally from Central and South America; not botanically related to the potato; produces a tuberous, swollen root (not a true tuber) that may be elongated to spherical, with white to red outer skin and white to yellow (vitamin A) flesh, containing starch, a small amount of protein and some sugar; usually boiled and mashed for food; the vines may be used as livestock feed and the young leaves may be used as a vegetable: The roots are canned, sun-dried, or dehydrated; may be made into starch and used as livestock feed. The word “yam” is used interchangeably with sweet potato (especially when the flesh is moist) in the United States, but in other countries it is reserved for plants of the genus *Dioscorea*.

Nutrient	Approximate amount used	
	Roots (200 bu)	Vines (1 ton)
N (lb)	30	40
P ₂ O ₅ (lb)	10	11
K ₂ O (lb)	50	33

Seed 10–12 bu/acre; mature in 140 days; yield 3 bushel/100 foot rows

Types:

Dry—flesh becomes dry and mealy on cooking; light yellow or pale flesh; yellowish, rough skin, long; low in moisture

Varieties—Gold Skin; Jersey Orange; Nemagold; Nugget; Red Skin; Vineless; Yellow Jersey

Moist (wet)—flesh becomes soft on cooking; green-yellow to red-orange flesh; reddish, smooth skin; round; contains more sugar and is sweeter; sometimes incorrectly called a yam

Varieties—Centennial; Goldrush; Nancy Hall; Puerto Rico

742 sweet potato (long potato: Spanish potato; *Ipomoea batatas*)

Sweet potato variety	Yield	Skin color	Flesh		Canning quality	Storage life	Use
			Color	Type			
Food-type sweet potatoes							
All gold		Golden	Golden				Fresh; processing
Carogold	Med.	Orange	Orange	Moist	Fairly good	Good	Fresh
Centennial*	High	Copper	Orange	Moist	Fair	Good	Fresh; processing; stores well
Coastal Sweet	Med.	Copper red	Orange	Moist	Fairly good	Good	Fresh
Early Sweet	Med.	Cream	Orange	Moist	Fairly good	Fair	Fresh
Gem	High	Light copper	Orange	Moist	Good	Good	Fresh; processing
Georgia Red	Low	Red	Light orange	Moist	Poor	Good	Fresh; stores well
Goldrush	Med.	Copper orange	Orange	Moist	Good	Good	Fresh; processing
Jerseys	Med.	Tan to red	Yellow-orange	Dry to semidry	Fairly good	Short	Fresh; processing
Julian	Med.	Salmon	Deep orange	Moist	Good	Good	Fresh; processing
Kandee	Med.	Orange	Salmon-orange	Moist	Good	Good	Fresh
Lakan	Med.	Red-tan	Deep orange	Moist	Fair	Good	Fresh
Nemagold	Med.	Orange-tan	Orange	Semidry	Fairly good	Short	Fresh; processing
Nugget	Med.	Copper to tan	Orange	Semidry	Good	Good	Fresh; processing
Oklamar	Low	Purple	Salmon	Moist	Good	Fairly good	Fresh
Porto Ricos	Low	Copper	Salmon-orange	Moist	Good	Good	Fresh; processing; baking
Redgold	Med.	Red-purple	Salmon-orange	Moist		Fairly good	Fresh
Sunnyside	Low	Tan	Salmon-orange	Moist	Good	Good	Fresh; processing
Virginian	Low	Copper-orange	Orange	Moist	Poor	Good	Fresh
Starch-type sweet potatoes							
Pelican	High	Cream	Light cream	High starch		Good	Feed; starch; industrial
Whitestar	High	Russet-white	Cream	Med. starch		Good	Feed; industrial

*Short season (100 days from set plants)

Curing: done as soon after digging as possible (4–7 days at 80–85°F, 85–90% relative humidity) to form wound-cork layers beneath wounds and to convert starch to sugars

Setting of skin: done prior to shipping; curing period may be extended and relative humidity reduced during last few days

Refuse: 20%

100 lb, fresh = 23–25 lb, dry

1 bu = 50–55 lb

1 crate = 24 qt = 12 qt, canned

2–3 lb fresh = 1 qt, canned

1½ lb, fresh = 1 qt, frozen

1 lb fresh = 3–4 servings

= 3 med. potatoes

16 oz, canned = 3–4 servings

1 med. potato = 1 serving

1 cup, cooked, sliced = 230 g (8.2 oz)

1 cup, canned = 7.6 oz

1 cup, dehydrated flakes, dry = 4 oz

Available forms: canned; dehydrated; fresh

To cook: bake until tender; or broil, fry, or French fry

Canned types:

Solid-pack, dry—peeled, pressed; thoroughly cooked

Syrup-packed—peeled, small pieces; partially cooked

Vacuum-packed—peeled, small, whole; partially cooked

Canned styles:

Halves

In syrup—with or without mandarin oranges and pineapple

Mashed

Pieces

Solid-pack—with little liquid

Vacuum-packed—without any liquid

Whole

Frozen styles: baked; cake; diced; French cut; halved; mashed; sliced; stuffed in shell; whole

Composition (raw): moisture 71%; protein 2%; fat 0.5%; carbohydrate 22–26%; ash 1%; ph 5.3–5.6

Storage: Dry for 2–3 h on the ground; cure at 85°F for 10 days; store at low room temperature (55–60°F; 90–95% relative humidity); will keep for several months below 60°F, 1 week at higher temperatures.

More perishable than Irish potato; do not store in refrigerator. See **yam**

See Part 2: Calcium, Daily Recommendations; Calories, Daily Recommendations; Minerals, Food; Niacin, Daily Recommendations; Nutrients in Crops; Plant Foods, Composition; Planting Density; Stabilizers, Thickeners; Standards, Processed Fruit and Vegetable Products; Starches and Starchy Roots, Composition; Storage; Sugar, Vegetables; Sweet Potato and Irish Potato; Sweet Potato, Composition; Sweet Potato Forms; Sweet Potato, Nutritive Value; Thiamin; Vegetable Boiling; Vegetable Composition; Vegetable Frozen Yield; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetables, Classification; Vegetable Servings; Vegetable Storage; Vegetable Yields; Vitamin A; Vitamin A, Daily Recommendations; Wastes, Agricultural and Industrial

sweet rice See **rice, glutinous**

sweets Candies *See* **candy**

sweet sausage A coarsely chopped, unsmoked, Italian, salami-type sausage with a sweet, licorice-like flavor

sweet sausage, pescara An S-shaped fully dried, Italian, sweet sausage made from lean pork stuffed into beef casings (0.75 lb)

sweetsop A fruit with thick, rough, yellow-green skin; sweet custardlike flesh *See* **annonaceous fruit; custard apple**

See Part 2: Fruit Composition

sweet sorghum A plant that produces a juice that when extracted and boiled becomes a sweet syrup; the tops are often used for dried arrangements and the seeds are used as bird feed; seed 1 oz/50-ft row

sweet tangle *See* **redware**

sweet vermouthe A smooth wine with a trace of herbs and aromatics in its flavor

sweet wine A wine having sufficient sugar in the end product to give a sweet taste; in 100 cc (20°C): not less than 1 g sugar; not less than 0.16 g ash in sweet red wine; not less than 0.13 g ash in sweet white wine

sweet woodruff (*Galium odoratum*) Ground cover whose leaves are used to flavor wine

swell A tin can in which gas production has caused expansion

Flipper—end will bulge when can is struck.

Hard swell—permanently extended ends

Soft swell—ends can be moved but not back to original position

Springer—end can be forced back, but opposite end will bulge

See **chemical swell, overrun; physically induced swell; T/A spoilage**

Swift's stability The stability of fat as measured by the active oxygen method *See* **active oxygen method**

swimmer A floating grain of barley

swine (*Sus scrofa*) An inclusive term for (domesticated) hogs, pigs, and sows, which are omnivorous,

monogastric animals with the following characteristics:

Age of puberty—5–7 months

Duration of estrus—48–72 h

Female—called a sow

Frequency of ovulation—21 days

Gestation period—114 days

Male—called a boar

Market age (US)—5–6 months

Market weight (US)—200–220 lb

Mature weight—600 lb

Million of sperm/ml of semen—300

Number of females served by one male—20–30

Number of offspring—8–14/gestation

Semen volume per ejaculation—250 ml

Time of ovulation—near end of estrus

Used as a source of food; the Jewish and Moslem religions ban the use of pork for religious reasons.

See Part 2: Gestation Periods; Gland Weights; Molds, Mycotoxins; Muscle and Body Weight; Reproductive Cycle; Swine Breeds; Swine Market Classes and Grades; Teeth Eruption

swine's snout *See* **dandelion**

swing churn A churn that functions by swinging rather than rotation

Swiss Alpine *See* Part 2: Goats, Milk Breeds

Swiss, baby A mild (slight Swiss taste), creamy, firm-textured, cheese used for fondues or sandwiches

Swiss bun A bun with a sugar icing top

swissca A tilsit-type cheese

Swiss chard (*Beta vulgaris* var. *cicla*) A beet with a green leafy top that is used in salads or cooked like spinach; the leaf is somewhat like spinach and has a swollen midrib that ranges from crimson to white; 1000–1950 seed/oz; seed 1 oz/100-ft row; germination time 14 days; available canned, fresh, and frozen;

1 cup, boiled = 6.8 oz

Storage: wash well; shake out water and store in crisper; refrigerate in a plastic bag and use within 2 days

See **chard; seakale beet; spinach chard**

Swiss chard variety	Description	Use	Season (days)
Burpee's Rhubarb Chard	Crimson stalk; savoyed green leaves	Midribs cooked like asparagus; leaves cooked like spinach	60
Fordhook Giant	Tender, dark green, broad, savoyed leaves; white stems	Greens	55–60
Lucullus	Light green stem, midribs, and leaves; savoyed leaves	Fresh greens	45–55
Rhubarb Chard	Looks like rhubarb	Edible and ornamental	60
Swiss Chard of Geneva	Celery-like stalks	Tops as greens; stalks like asparagus	60

744 Swiss cheese (emmentaler)

Swiss cheese (emmentaler) A hard cheese that is creamy colored, with large holes, (or eyes) and a sweet, salty, nutlike flavor; it is made from skimmed cow's (or sometimes goat's) milk, using a high-temperature scalding process that produces a medium-strong cheese with a hard, elastic texture; sold as rindless blocks and as large wheels with rind; ripened 2-9 months; used for buffets, sandwiches, and in salads

Types:

Domestic—without eyes

Imported (or "Switzerland")—full-flavored with eyes

Equivalents:

1 slice $7\frac{1}{2} \times 4 \times \frac{1}{16}$ -in. = 1.25 oz

one 1-inch cube = 0.6 oz (processed cheese)
= 0.5 oz (natural cheese)

1 cup, shredded = 4 oz

Procedure:

1. Milk passed through a separator, used as a clarifier.
2. Warmed and stirred.
3. Starters added. Bacteria used are *Streptococcus thermophilus* (lactic acid, flavor, breakdown of curd), *Lactobacillus bulgaricus* or *L. lactis* (lactic acid, flavor, breakdown of curd), and *Propionibacterium shermanii* (flavor, eye formation).
First starter—produces lactic acid from lactose; acid aids in expelling whey from cheese
Second starter—responsible for flavor and eye formation
Third starter—aids in acid production and ripening
4. Warmed to setting temperature, 88-94°F.
5. Set with rennet extract.
6. Curd cut to $\frac{1}{8}$ -in. diameter.
7. Cooked for 25 min at 120-128°F.
8. Pressed and knit to a compact mass.
9. Placed in 23% salt brine tank for 3 days; room temperature 55°F and relative humidity 85%.
10. Stored in cold room 10 days.
11. Stored in warm room 68-74°F (ripening process, eyes begin to form in 2-3 weeks).
12. Returned to cold room (slower curing).
13. Cured for 6 months at 40°F.

Other types of Swiss cheese: allgauer emmentaler; bellunese; dolce; fontina; fontine d'aosta; formaggio; gruyère; samsø; traanen

Grades: U.S. Grade A, B, C, D

Composition	Processed	Processed cheese food	Swiss (natural)
Moisture (%)	42-43	43-44	37-39
Protein (%)	24-25	21-22	27-28.5
Fat (%)	24.5-25.5	24-25	27-28
Carbohydrate (%)	2-2.5	4-5	2-3.4
Fiber (%)	0	0	0
Ash (%)	5.6-6	5-6	3.5-4
Salt (%)			1.3

43% of milk fat in solids; pH 5.1-6.6; calcium 0.9%; sodium 74 mg/oz

Caloric content:

1 oz, natural = 105 calories

one 1-in. cube, natural = 55 calories

1 oz, processed = 95 calories

one 1-in. cube, processed = 60 calories

Storage: wrap tightly and refrigerate; will keep for several months unless mold develops; cut off mold if it develops. Can be frozen (0°F) if no more than 1 in. thick; use within 6 months.

See Part 2: Cheese Characteristics; Cheese, Vitamin Content; Milk and Milk Products, Vitamin Content; Thermophiles; Vitamin A, Milk and Milk Products

Swiss steak 1) Usually, thick slices of rump or round steak, floured and cooked with tomato juice and other vegetables. 2) A method of preparation for less-tender beef steaks by which they are (frequently) mechanically tenderized and prepared by moist-heat cooking
See Part 2: Braising Meat

Swiss-style bread A bread that is made from wheat and rye and has floury top with deep cuts in surface

Switzerland cheese Genuine imported Swiss cheese

Switzerland Swiss (emmentaler) A Swiss cheese that has a mild, nutlike flavor and chewy texture, with holes

swizzle A drink made from bitters, lime juice, liquor, and sugar

sword bean (*Canavalia gladiata*) A climbing plant that is closely related to the jack bean

swordfish (broadbill; *Xiphias gladius*) A lean, large (60-800 lb), saltwater finfish with a swordlike beak that is an extension of the upper jaw bone; used as a food fish with firm white flesh, medium (4.4%) fat content and light to moderate flavor; normally cut into steaks

1 steak, 1 in. thick = 8 oz

See Part 2: Vitamin A, Fish; Vitamin D, Fish

sycamine Black mulberry

sycamore A tree that makes fair firewood [20 × 10⁶ Btu/cord (20% moisture)], is medium easy to start, is difficult to split, and produces medium smoke, fair coals, and few sparks

syllabub (sillabub, sillilub) A drink made from milk and sugar mixed with wine or cider

sylvaner A dry white wine

sylvinite Similar to kainite except the potash (16%) is in the form of chloride

sym- (syn-) A prefix used to indicate "together"

symadovska loukanka A flat pepperoni made from beef and pork

symbiosis Living close together for mutual benefit, in particular, the close association of two dissimilar (noncompeting) organisms

symbol An arbitrary character or an abbreviation that stands for an object or quantity, e.g., the abbreviation of the name of an element, representing an atom of that element

sym- A prefix used to indicate with or together See sym-

synapse 1) The region of communication between two neurons, or to form such a connection. 2) To come together in synapsis during meiosis

syneresis The separation of water or fluid that disassociates (exudes) from starch products or jelly due to

concentration and shrinkage of the gel, which squeezes out the dispersing medium; occurs, e.g., in overcooked custard and in the clotting of blood

synergism A phenomenon in which the properties of a mixture are affected to a much greater extent than the sum of the components taken individually would indicate; for example, a copolymer may exhibit much greater strength than the strengths of the individual polymers. Such cooperative materials are called synergists, as in certain antioxidants.

synergist A substance that when used in combination with another material provides the combination with greater effect than would be predicted from the sum of the individual effects, e.g., a combination of antioxidants to retard rancidity

syneta leaf beetle A pale brown or yellowish beetle, about $\frac{1}{4}$ in. long, that scars and deforms fruit; the larva is a small grub with a plump, curved body.

Syno-vex-C A growth-promoting implant used on slaughter steers and heifers

Syno-vex-H A growth-promoting implant used on slaughter heifers

Syno-vex-S A growth-promoting implant used on slaughter steers

synovia The lubricating fluid secreted by certain membranes, such as those of the joints

synovial Describes an area where two bones meet and movement is required

synthetic Made outside the body; artificial; the opposite of natural; describes an artificially produced material that is similar to the natural product; synthetic products may be superior to their natural counterparts.

synthetic broth See Part 2: Microbiological Media

syr Cheese

Syrian food habits

Animal products—eggs

Beverage—black coffee

Dairy—butter; cheese; fermented milk; sour cream

Grain—rice; wheat

Seasoning—honey; onion; pepper

Vegetables—broccoli; cucumber; dandelion; eggplant; leek; okra; tomato

Syrian gum See gum tragacanth

syrok A Russian food fish See pelyad

syrphid fly An insect; the adult is bright yellow and black, $\frac{1}{4}$ – $\frac{3}{8}$ in. long; the larva resembles a brown, gray, or mottled slug and eats insects (can consume one aphid per minute)

syrup (sirup) A mixture of sugar and water that is a

good source of energy but is limited in nutritional value

Strength	Sugar		Corn syrup (cups)	Water (cups)	Will make (cups)
	%	Cups			
Thin	—	1 $\frac{1}{3}$	—	4	—
		3	1 $\frac{1}{4}$	5	—
Medium	30	2	—	4	5
		4	1 $\frac{1}{2}$	4 $\frac{1}{3}$	—
Medium-heavy	40	3	—	4	5 $\frac{1}{2}$
Heavy	50	4 $\frac{3}{4}$	—	4	6 $\frac{1}{2}$
		3 $\frac{1}{3}$	2	5 $\frac{1}{4}$	—
Extra-heavy	60	7	—	4	7 $\frac{3}{4}$

Storage: Unopened, at room temperature; opened, refrigerate; if crystals form, dissolve by putting container in hot water.

See sirup

See Part 2: Brix Table; Brix, Temperature Correction; Calories, Daily Recommendations; Cherry Brix; Microbiological Media; Stabilizers, Thickeners; Sugars and Syrups, Composition; Sweetness of Sweeteners; Sweetening Agents

syrup, golden A yellow syrup made by evaporation of sugar-cane juice

syrup, gum See simple syrup

systemic insecticide A pesticide that is absorbed into the plant or animal that it is protecting

systole Muscle contraction

szalami A pork pepperoni

szanorodner A dry, golden, tokay-type, dessert or after-dinner wine

Szechwan cabbage Pickled, hot, Chinese cabbage

Szechwan cattle A breed of yellow draft cattle with a prominent hump; originated in Szechwan (Sichuan) province of central China

szegedi A hot pepperoni made from coarsely chopped pork

szekely cheese A soft cheese made from ewe's milk and packed in sausage casings

szilva A plum brandy

szynka (szynke) Ham

szynkowa, ham A moist, cooked, double-smoked Polish sausage made from pork coarsely chopped and stuffed into artificial casings

T

2,4,5-T A phenoxy herbicide closely related to 2,4-D; its chemical name is (2,4,5-trichlorophenoxy) acetic acid

Ta The symbol for the element tantalum

Tabanus A genus of biting flies (e.g., botfly, gadfly, horsefly, and serot)

tabasco (*Capsicum frutescens*) A hot red pepper that is used to make a liquid seasoning

Tabasco (Tabasco sauce) The proprietary name of very hot pepper sauce from capsicum berries, spirit, vinegar, and salt; made by pickling the pulp of tabasco peppers (*Capsicum frutescens*) in vinegar or brine; used for flavoring meat, oysters, salads, soups, etc.

Sodium content: 24 mg/tsp (5 g)

See **capsicum**

tabby Concrete made from equal mixtures of lime (made by firing oyster shells), oyster shells, sand, and water

table A flat-topped piece of furniture used for eating meals

Table and tablecloth shape	Number seated	Size (in inches)	
		Table	Tablecloth*
Oval	6-8	36 × 60-48 × 72	60 × 84
	8-10	36 × 80-48 × 92	60 × 104
Rectangle	8-12	46 × 80-58 × 92	70 × 104
	4-6	28 × 46-40 × 58	52 × 70
	6-8	36 × 60-48 × 72	60 × 84
	8-10	36 × 80-48 × 92	60 × 104
	8-12	36 × 96-48 × 108	60 × 120
	8-12	46 × 80-58 × 92	70 × 104
Round	10-14	46 × 96-58 × 108	70 × 120
	12-16	46 × 116-58 × 128	70 × 140
Square	4-6	46-58 diam.	70
	6-8	66-78 diam.	90
	4	28 × 28-40 × 40	52 × 52

*Size allows a 6-12 in. border to hang over each side of the table

table d'hôte 1) A complete restaurant meal at a fixed price. 2) A menu with a fixed number of courses, but with a choice of dishes within a course; a set price is charged for the meal. 3) A common table for guests at a restaurant

table oil See **salad oil**

table salt Sodium chloride (NaCl) See also **salt**

tablespoon (tbsp) A large spoon used at the table; equal to one-sixteenth of a measuring cup

1 tbsp = 3 teaspoons (tsp)
= 15 milliliters (ml)
= 4 fluid drams
= 2 dessertspoons

2 tbsp = 1 fluid ounce

16 tbsp = 1 cup

32 tbsp = 1 pint (pt)

64 tbsp = 1 quart (qt)

256 tbsp = 1 gallon (gal)

See Part 2: Volume

tablespoon [(British) tbsp]

1 tbsp (British) = $\frac{1}{2}$ fluid ounce

table water Bottled mineral water that is used with meals

table wine A wine, usually containing less than 14% alcohol that is served with food

tacama A white, rosé, or red wine

tachyphagia Rapid consumption of food

tack Food of a breadlike nature, e.g., hardtack

tackjoo A rice wine

tacky Sticky; adhesive

taco A crisp, fired, corn tortilla folded into a U shape (called a taco shell) and filled with a cooked mixture of ground beef, onions, peppers, and garlic and topped with (fresh) chopped tomatoes, shredded lettuce, grated cheese, and taco sauce; hot peppers may be used

Sodium content: 401 mg/taco (75 g)

tactile sense The sense of touch

Taenia saginata A parasite found in cattle; the life cycle takes it from ingestion by cattle to the duodenum, through the intestinal wall to the intramuscular connective tissue; as the meat is eaten by humans the tapeworm grows in the intestines to maturity; the larval stage is called *Cysticercis bovis*. Thoroughly cooking meat ensures protection for humans.

Taenia solium A parasite found in hogs with a life cycle similar to the *Taenia saginata* in cattle; the larval stage called *Cysticercis cellulosae*

taette A thick, ropy, fermented cow's milk that is low-medium acid and slightly alcoholic

tafelwein Table wine; a category of German wine that is light and pleasant and consumed locally; tafelweins are produced from approved grape varieties in the Main, Mosel, Nacker, Oberrhein, and Rhein regions.

taffy A confection made from brown sugar or molasses and repeatedly stretched or pulled until porous and light-colored

tafi A semihard cheese made from cow's milk

tafia A sweet, alcoholic drink that is made in India from sugar cane

taftoon A flatbread made from 82-84%-extraction flour

tagella A shallow-fried cake made from millet or sorghum flour

tagetes (Aztec marigold) A plant that yields natural food-coloring additive

taginette See **noodles**

tagliarini A noodle ($\frac{1}{8}$ in. wide)

tagliatelle A ribbon of pasta ($\frac{1}{4}$ – $\frac{1}{2}$ in. wide)

tagliati See **noodles**

taglioline A thin noodle

tahina (taheneh) A thin pasta made from sesame seeds

Tahitian lime A hybrid citrus fruit grown in the United States

taho Yogurt

tahuli A sufu soybean curd

tahuri A sufu soybean curd

Taiku A breed of white-faced, fat-tailed sheep that are raised for wool and mutton and are found in Hopeh (Hebei) and Shensi (Shanxi) provinces of northeastern China

tail The hindmost part of an animal, especially when forming a distinct, flexible appendage; the caudal or coccygeal vertebrae; the tails of meat animals are used as food, e.g., ox-tail; $1\frac{1}{4}$ lb tail per 1000-lb steer

tail bone See **caudal vertebrae**

See Part 2: Bone; Lamb, Wholesale Cuts; Pork Cuts and Uses; Pork Wholesale Cuts; Pork Yield; Veal Wholesale Cuts

tailhead The region of attachment of the tail to the body

tailless sheep Sheep that exhibit the recessive trait of taillessness

See Part 2: Sheep Breeds

tail-tie A tie on the tailhead

taint 1) An unpleasant or offensive odor or flavor. 2) To pollute or poison. 3) To cause an off odor and putrefaction

tai-pla A fish sauce

tairu A yogurt made from cow's or soy milk

tai tan tsoi Pickled turnip

Takaki, K. A Japanese surgeon who found that beriberi responded to a change of diet (which had previously been polished rice)

takammart Dried hard spheres of fermented whole goat's milk or milk curds stored in goatskin bag

takana Pickled mustard (*Brassica juncea*)

take-all A fungal (*Ophiobolus graminis*) disease of wheat; causes root and foot rot

takelit A pocketed flatbread

takenoko Bamboo shoots

takju A rice wine

takra Buttermilk

takuan Japanese radish that is pickled in rice bran

tala A sorghum beer

talani A leavened, thin flatbread, usually made from high-extraction wheat flour

talc (talcum; French chalk) Finely powdered magnesium silicate; used in chewing gum and as an anticaking agent

taleggio A creamy, semisoft, mild-flavored, snow-white Italian cheese made from cow's milk and ripened by surface bacteria; has a mellow, slightly piquant flavor

tal ha'emek A Swiss cheese made from cow's milk

tali (eriwani) A cheese made from sheep's milk

tall 12 A 12-oz beer or beverage can

Regular—207.5/209 × 504

MiraForm II bottom—207.5/208.5 × 504

tallow [(dipping) suet] An animal fat separated from connective tissue (particularly of cattle and sheep) with a titer of 40°C or higher (usually up to 46°C)

Composition (fatty acids)	Mutton (%)	Beef (%)
Linoleic	4	2
Margaric	—	0.5
Myristic	5	3–6
Oleic	36	44–49
Palmitic	25	27–29
Palmitoleic	—	3
Stearic	30	14–19

Properties:

Iodine value—32–45 (mutton); 35–55 (beef)

Melting point—42–47°C (mutton); 43–48°C (beef)

Refractive index (60°C)—1.451 (mutton); 1.449–1.452 (beef)

Saponification value—192–195 (mutton); 190–200 (beef)

Specific gravity (99°/15.5°C)—0.858–0.860 (mutton); 0.862 (beef)

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Composition; Fats and Oils, Fatty Acid Composition; Fats and Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Free Fatty Acid, Smoke, Flash, and Fire Points; Iodine and Saponification Values; Melting Points, Fats and Oils; Oils and Fats, Composition; Refractive Indices, Fats and Oils; Saturated Fatty Acids; Specific Gravities; Fats and Oils; Tallow, Beef, Triglyceride Mole Percent Composition; Titer, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids

tallow (cutting) Tallow from a retail store will yield 58% tallow (fat), 22% moisture, 20% meat scraps

tallow gourd See **wax gourd**

tallowy Fatty-waxy; having the flavor of oxidized lard, or a rancid lardlike flavor

talose See Part 2: Sugar, D-Aldehyde

tamale (tamal; tamalli) A Mexican dish made from minced meat (a mixture of lamb, beef, and pork), red pepper, chili powder, garlic, and spices, rolled in a cornmeal pancake (similar to a tortilla); minced meat, sweet red pepper, and garlic, rolled in cornmeal (or other cereal) and wrapped in corn husks or plantain leaves; cornmeal, meat, and oil cooked by steaming, boiling, or baking in a corn husk (or in paper)

748 tamara

tamara 1) A date (*Phoenix dactylifera*) liqueur. 2) A mixture of aniseed, cinnamon, cloves, coriander, and fennel

tamari A dark brown soy sauce made with 10% wheat

tamarind (asem; assam; tamarindo; *Tamarindus indica*) A large, tropical tree (related to the carob) that produces a very acid fruit in a brown pod; the white, crisp, sweet-sour pulp is used fresh, made into preserves, packed in syrup, and used in curries, chutneys, sauces (including Worcestershire sauce), relishes, beverages (adelike drink), and flavoring; the fruit contains acids and salts; a tropical fruit (1 × 8 in) with a thin-shelled pod that contains a brown, acrid, sweet pulp and 1-12 large, flat seeds; the flowers are used in curries.

Uses:

- Juice—pickling fish
- Pulp—preserves
- Syrup—beverage
- Tamarind (whole)—chutneys; curries

A natural flavoring is made from the partially dried, ripe fruit.

tambadiang Smoked and dried fish

tambo A Swiss cheese made from cow's milk

tamie A tilsit-type cheese made from cow's milk

tammy To strain through cloth

tampala hinn choy (*Amaranthus tricolor*) A plant with leaves that are used like spinach

tampala spinach Used as a spinach substitute; the leaves are used raw (in salads) or cooked, and the stems are cooked like asparagus

tamper-proof 1) Describes a container that cannot be opened and reclosed without leaving visible evidence. 2) Describes a closure designed so that children cannot open it

tampico fiber (istle) Obtained from a fiber-producing plant

Tamworth (Staffordshire) A bacon-type breed of hogs that originated in central England; it is solid red in color and has erect ears and a long body.

See Part 2: Swine Breeds

tanbark Shredded tree bark used as a source of tannic acid See also **tannic acid**

tan-chey Tempe

tandem An arrangement of two or more machines used in series

tandil A cantal-type cheese

tandoori roti A pocketed flatbread

tane koji A mold-spore inoculum used in making koji

Tang An instant breakfast drink

tang-chai Pickled cabbage

tangelo (*Citrus reticulata* × *C. paradisi*) A yellow, globe- or pear-shaped (4 in.) citrus fruit that is a hybrid cross between tangerine and grapefruit and has a sweet-tart flavor; easy to peel; the skin may be thick or thin, smooth or rough.

Varieties: Minneola; Orlando; Temple Tanger (*C. sinensis* × *C. paradisi*)

Composition (juice): moisture 90%; protein 0.5%; fat 0.1%; carbohydrate 10%; ash 0.3%

See Part 2: Citrus Fruit Storage; Fruit and Nut Rootstock; Fruit, Availability

tangent 1) A straight line that touches the circumference of a circle at one point and is perpendicular to the radius at that point. 2) A trigonometric function:

$$\tan = \frac{\text{ordinate}}{\text{abscissa}}$$

tangerine (China orange; king orange; mandarin; naartje; satsuma; *Citrus nobilis*; *C. reticulata*)

A citrus fruit similar to the orange but smaller (2½–3½ in., with a deeper orange color, and much easier to peel; pulp is very sweet; used as dessert fruit; segments are canned and the rootstock is used for other citrus plants.

Varieties:

Clementine—season, December (can be stored on tree)

Dancy—season, December

Dwarf Owari Satsuma—Oct. to Dec.

Honey Mandarin

Kara Mandarin

Kimow Mandarin

Equivalents:

½ box (Fla.) = 45 lb med. tangerines, 2½-in. diam.

1 lb = 4 tangerines

1 cup juice = 8.8 oz

1 cup sections = 6.8 oz

Composition	Juice	Raw
Moisture (%)	89	87
Protein (%)	0.5	0.8
Fat (%)	0.2	0.2
Carbohydrate (%)	10	12
Fiber (%)		2.1
Ash (%)	0.3	0.4
pH		4.0

Ascorbic acid 31 mg/10 g

Storage: 31–35°F, 90–95% relative humidity; storage life 3 weeks

See Part 2: Citrus Fruit Storage; Fruit and Nut Rootstock; Fruit, Availability; Fruit Classification; Fruit Composition; Minerals, Food; Plant Foods, Composition; Tangerine Oil, Composition; Tangerine Oil, Properties

tangerine oil The oil expressed from the peel of ripe Dancy or related varieties of tangerine; used as an orangeline flavoring agent in food; sp. gr. 0.845–0.855 Storage: full, tight, glass container in a cool, dark place

tang-guo Candy

tangle See **redware**

tangleberry (*Gaylussacia frondosa*) A sweet, dark blue, piquant-flavored, blueberry- or huckleberry-type berry that may be consumed fresh or cooked

Tan goat See **Chungwei goat**

tango cocktail A cocktail made with gin, vermouth, and orange juice

tangor A hybrid between tangerine and sweet orange, similar to a tangelo; e.g., Temple (*Citrus sinensis* × *C. paradisi*)

tangy Describes a sharp, tart flavor

Tangyang A breed of gray, draft water buffalo; originated in Hupeh (Hubei) Province of central China

tankage The residue from rendering (often slaughterhouse entrails and scraps); used for livestock feed and fertilizer; a protein supplement made from animal tissue and bone but exclusive of digestive tract contents, hair, hooves, and horns

Composition	Tankage		
	Meal	50% protein	With bone
Dry matter (%)	92	94	93
Protein (%)	59	51	47
Fat (%)	9	10	13
Fiber (%)	2		2
Ash (%)	21.5	30.6	28
Calcium (%)	5.9	11.7	11
Phosphorus (%)	3.1	5.5	5

See **meat and bone meal**; **meat meal**

See Part 2: Fertilizer; Fertilizer Materials; Packinghouse By-Products, Composition

tankage with bone See **tankage**

tankard A tall one-handed vessel used to hold a liquid (usually beer or ale) for drinking

tanked Steam-pressure cooked

tankyo Co-operative

tannia (belembé; calalu; cocoyam; eddo; habarala; malanga; new cocoyam; tanier; tania; yautia; *Xanthosoma sagittifolium*) A plant similar to taro except that the main corms are usually not eaten, the abundant lateral corms are used as food

tannic acid (tannin) ($C_{76}H_{52}O_{46}$) A yellowish white to light brown organic acid that occurs in the bark of some species of trees; it is extracted by leaching with water. It has the property of converting the proteins in animal hides and skins into the flexible poromeric material called leather—a physicochemical reaction known as tanning.

Obtained from: American chestnut; Chinese or Turkish nutgall; gambier; hemlock; mangrove; myrobalan; red oak; quebracho; spruce; sumac; valonia; water bark; wattle (Australia); mimosa (South Africa); quercitron

Tannin also occurs in some plants and is responsible for the astringent taste of some foods (e.g., apples, coffee, nuts, red wine, and tea). It adds life to wine by retarding the maturation and is used as a clarifying agent in beer and wine and as a flavoring agent in food.

Storage: tight container in the dark

tannin See **tannic acid**

tanning The process of making leather from hides by immersing them in a solution of tannic acid See also **tannic acid**; **vegetable tanning**

tannour (tannouri) A leavened, thin flatbread, usually made from high-extraction wheat flour

tannouri See **tannour**

tan rot A disease of strawberries caused by a fungus (*Pezizella lythri*); it attacks both green and ripe berries.

Prevention: Proper spacing and correct timing of fertilizer application are most important; fungicides are also helpful.

tanskalainen meetwurst A coarse salami made from beef and pork, sometimes with horsemeat

tansy 1) *Tanacetum vulgare*, a perennial, strongly scented herb used for flavoring food; the foliage is used to produce extracts and as a salad herb (lemon fragrance); an aromatic herb that has a bitter taste and is used in bitter herbs and as a tea. 2) A sweet pudding flavored with tansy

tansy oil (*Tanacetum* spp.) An essential oil containing camphor and borneol
See Part 2: Essential Oils

tantalum (Ta) A metallic element; at. no. 73; at. wt. 180.95; Group VB of the Periodic Table; oxidation state +5;
electron configuration 2-8-18-32-11-2
orbit K L M N O P

Tanyang (sheep) A white-fleeced (carpet-wool grade), fat-tailed sheep with black or brown head and legs, that is raised for pelts, wool, and mutton; found in Kansu (Gansu) and Shensi (Shanxi) provinces (north-central and northeastern China, respectively) and Inner Mongolia

Tanyang goat A breed of white, polled goat raised for meat and found in Kiangsu Province, eastern China

Tanzania peaberry A coffee bean that grows as a single round seed rather than the usual two

tanzenberg See **limburger cheese**

tanzenberger A soft to semisoft, strongly flavored cheese made from cow's milk and ripened by surface bacteria

tao-chieo A flavorful paste made from soybeans, often mixed with cereals

tao-cho A strong, black paste made from soybean and rice flour used as a flavoring

taoco A flavorful paste made from soybeans, often mixed with cereals

tao-hu-yi A sufu soybean curd

taokoan A sufu soybean curd

tao-si A strong, black, soybean paste with rice; used as a flavoring

tao-tjo A strong, black paste made from fermented soybean products with rice flour and sugar; used as a flavoring

tao-tjung A flavorful paste made from soybeans, often mixed with cereals

tao-yu A soy sauce

tap To draw off liquid

tapa Salted and sometimes spiced and sun-dried beef and pork.

tapai 1) A glutinous rice wine. 2) A cake made from eggs, rice flour, sugar, grated coconut, and manisan

tapas Small dishes of food, ranging from canapés and hors d'oeuvres to appetizer-sized portions of dinner foods

750 tape

tape Cassava, millet, or maize that has been converted to a sweet-sour, alcoholic paste; consumed after deep-frying or sun-drying

tape cantal A millet tape

tape jagung A maize tape

tape-ketan A sweet, slightly alcoholic, glutinous rice

tape ketela A cassava tape

tape nasi A sweet, slightly alcoholic, glutinous rice

tape singkong A cassava tape

tape telo A cassava tape

tapeworm A flat parasitic worm (of the class *Cestoda*) found in digestive tract of humans and animals; the larvae may be present in beef, pork, or fish and can be transmitted to humans. *See Taenia saginata*; *Taenia solium*

tapio A white herb liqueur made with juniper

tapioca Starch extracted from the roots of the cassava plant and used for thickening; an easily digested starch made from the roots of the cassava (manioc) or manihot plant; purified cassava

Forms available; bullet; flake; medium; pearl

1 cup, dry, quick-cooking = 5.4 oz

1 cup, unsifted, spooned = 3.8 oz

See cassava; tapioca flour

tapioca flake Tapioca flour mixed into dough and baked

tapioca flour Starch obtained from the root (6 in. × 2 ft) of a South American tropical woody plant (called the cassava, or manioc); used in puddings and as a thickening agent

Tapioca forms:

Granulated—ground flake tapioca

Quick-cooking—given special processing to reduce cooking time

Pearl (round)—small; medium; large

Powdered (flour)—pulverized starch

Color: green; red; yellow; white (natural)

3 cups = 1 lb

See also flake tapioca; pearl tapioca

See Part 2: Cornstarch Pudding Variations; Minerals, Food; Starch; Starch, Microappearance; Vegetable Storage

tapoi A rice wine

taproot Main central root

tapuy A rice wine

tara 1) A yellow cheese that is made from cow's milk and has small holes and a red rind. 2) A fern with roots that are used like yams

tara gum A gum obtained from plant seed

tarama Dried, salted fish (often gray mullet) roe (eggs)

tardi A white or red wine

tare 1) The weight of a container. 2) A fodder plant of the vetch family *See* vetch. 3) Weeds among corn

targeted export assistance Subsidy programs intended to increase exports to specific countries

targeting *See* tiering

target price 1) The buyer's estimate of what will constitute a fair price. 2) A price for certain crops established by law. 3) Deficiency payments

target spot *See* Part 2: Sorghum Diseases

Targhee A breed of sheep originated by the USDA; about $\frac{3}{4}$ Rambouillet, the remainder being Lincoln and Corriedale

See Part 2: Sheep Breeds

targola The large, round fruit of the tar or tad palm; contains globs of edible, translucent, jellylike pulp

tarhana A dried mixture of fermented milk (2-3 parts) with whole wheat (1 part)

tarhanocirv *See* kapestoes

tarho Yogurt

tarhonya Small pellets of cooked pasta; used as a garnish

tari A sweet, cloudy, white wine made from date-palm sap

tarnished plant bug (*Lygus lineolaris*) A sucking insect that attacks the fruit of apple, peach, pear, plum, quince, and many other fruit trees and plants, causing deformed fruit, catfacing, and sunken areas (conical shape) with corky tissue; the insects also puncture young berries, which remain small and hard. Control: sprays; insecticides

taro (cocoyam; dasheen; eddo; Egyptian ginger; elephant ear; gabi; kalo; malanga; old cocoyam; talla; tania; tanier; tanyah; Colocasia esculenta; C. esculenta schott; C. indica) A tropical perennial plant that produces tender sprouts (similar to a slender white potato with a flavor similar to the oyster plant), called dasheen, and starchy corms (6-20 per plant, $2\frac{1}{2}$ -8 lb per plant), called taro, that form underground by thickening of the stem; the starch from this plant is very digestible. Taro is a staple food of the Pacific; the corms are used in some areas as a substitute for the potato and may be boiled, baked, fried, or used in soups; poi (a fermented paste) is made by boiling or steaming the corn and pounding it into a paste.

Parts used:

Corm—80-500 g; cooked like potatoes; used to make poi; smaller, side corms make better eating and store better than the large, central corm

Flesh—usually white; may be pink, red, or yellow

Rind—bitter-flavored; should be removed

Leaves

Young, unrolled—used as table greens (like spinach)

Large—used as greens

Shoots, sprouts—blanched and eaten; should be chilled after cutting

Stalks, stems—used like asparagus

Composition (corm): moisture 73%; protein 2%; fat 0.2%; carbohydrate 24%; ash 1%

Storage: dried on ground and stored at 50°F with ventilation; will keep for several months

tarpon A kingfish; a sport fish

Ladyfish (*Elops saurus*)—Atlantic

Machete (*Elops affinis*)—Pacific; fresh water

Silverfish (*Megalops atlantica*)—Atlantic

tarragon (estragon; taragona; tarragan; *Artemisia dracunculus* L.) The dark green leaves (dried or fresh) of an aster plant [a bushy (2 ft) perennial (90 days) herb]; sweet-anise-mint flavor; used as a flavoring in fish, French mustard, meat, pickles, salads, sauces, and vinegar; oil of tarragon is distilled from the foliage. The harvested leaves (bitter, aromatic) are generally dried, finely powdered, and stored in an airtight container

Sources: California; France

Types:

French—more aromatic and flavorful than Russian Russian or Siberian (*A. redowskii*)—very vigorous; resembles tarragon but has a less-aromatic fragrance and color; can be propagated by seed

Composition (dried): moisture 7–8%; protein 22–24% [4% (fresh)] fat 7–8%; carbohydrate 50–51%; fiber 7–8%; ash 11.5–13%

Storage (dried leaves): in a colored, airtight container

tarragona A sweet, Spanish wine, often fortified, produced in Catalonia (northeastern Spain)

tarragon butter Soften one-half stick of unsalted, sweet butter and add one tablespoon finely minced fresh tarragon or one-half teaspoon dried tarragon; cream together, adding a few drops lemon juice.

tarragon oil A volatile oil obtained by steam distillation of *Artemisia dracunculus* plant; used as a spicy-flavoring agent in food; sp. gr. 0.914–0.955

Storage: full, tight, glass container in a cool, dark place

tarragon vinegar Vinegar flavored with tarragon and used on salads

Procedure:

1. Rinse and pat dry tarragon.
2. Fill jar lightly with tarragon.
3. Heat, do not boil, good cider or wine vinegar.
4. Pour vinegar over tarragon and cover.
5. Let stand at room temperature for two or three weeks then strain through cheesecloth or filter.
6. Store in a corked bottle.

tarry Having the odor of tar

tarsal bones Hind foot bones located above the metatarsal bones

See Part 2: Bone

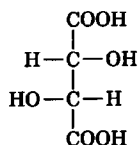
tarshiki (*Cheilodactylus macropterus*) A food fish used in Japan

tart 1) Descriptive of a biting, sour taste. 2) A fruit pie with pastry top and bottom; a pastry filled with fruit, jam, etc.

See Part 2: Salad Dressing and Mayonnaise Variations

tartar An acid deposit produced during grape fermentation; used to make tartaric acid and cream of tartar

tartaric acid



An organic acid derived from fruits (e.g., grapes); a plant derivative often used as a substitute for lemon juice; 80–85% as sour as anhydrous citric acid; used

as a food acid and as a sequestrant; used in baking powder and to adjust acidity

Percentage (weight/weight at 15°C)	d_{4}^{15}
1	1.0045
10	1.0469
20	1.0969
30	1.1505
40	1.2078
50	1.2696

Storage: tight container

See Part 2: Acidulants; Normal Solutions; Organic Acids in Fruits and Vegetables; Reagents, Normal Solutions

tartar (tatare) sauce A sauce (emulsion of oil in water and acid) used with seafood; made from mayonnaise mixed with either capers, chives, gherkins, parsley, shallots, and tarragon or dill pickles, green onions, horseradish, and parsley

Sodium content: 182 mg/tbsp (14 g)

See Part 2: Fat and Oils, Composition I

tasi The edible fruit of a tree; roasted before consuming

TA spoilage (flipper; leaker; swell) A spoilage of canned foods that causes a can to bulge at one or both ends, (may explode); caused by *Clostridium thermosacchrolyticum*, which produces large amounts of gas

tassel The flowering portion of the corn plant (*Zea mays*)

See Part 2: Corn

taste A sensation produced by sensory receptors located on the tongue

Taste categories [with organoleptic threshold values (g/100 ml)]:

Bitter—0.00005 quinine

Saline—0.25 NaCl

Sour—0.007 HCl; 0.0002 vanilla (coumarin)

Sweet—0.5 sugar (sucrose)

See Part 2: Flavor Ingredients, Taste and Flavor Type

taste bud (taste-beaker; taste-onion) A receptor end-organ for taste perception; about 9000 are located on the tongue and other areas of the oral cavity

taste panel A selected group of people who perform organoleptic (sensory) tests on food products

See Part 2: Taste Panel, Difference Tests; Triangular Taste Test + Preference; Triangular Taste Test Probability

taster One who tastes; a device for sampling food or drink

tasty Describes a savory or pleasant flavor

tatate A fermented plantain flour mixed with maize, flavored with ginger, and shallow-fried

tau (T, τ) Greek letter with an English equivalent of t

Toulouse-brand sausage A fresh sausage made of fatty pork

taurasi A red wine

752 tautog

tautog A finfish with light meat and a very light delicate flavor *See* **blackfish**

tavel A strong, dry rosé wine

tawny 1) Having the color and character of port. 2) Describes wine matured in wood. 3) A rich brown color characteristic of some wines, e.g., port

tax exemption certificate Certification given by the buyer to the seller with the purchase order to indicate that the sale is not subject to sales tax

-taxis A suffix used to indicate order, arrangement, or influence

tax-loss farming A farming operation conducted with the main objective being to produce a loss for tax-reporting purposes

taxonomy The science of arranging and classifying plants and animals

Tb The symbol for the element terbium

TB *See* Part 2: Microorganism, Media

TB cattle Cattle that react to the tuberculin test

TBHQ *See* **tertiary butylated hydroquinone**

T-bone steak A steak that has a T-shaped bone and is cut from the short loin; located between porterhouse and club steaks

See Part 2: Beef Cuts; Beef Cuts and Uses; Beef Retail Yield: Bone in Retail Cuts; Broiling Meat; Meat Identification; Portion Size

Tc The symbol for the element technetium

TC A symbol used on volumetric apparatus, meaning "to contain"

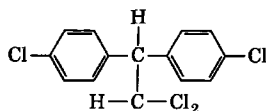
TCA cycle *See* **citric acid; Krebs cycle; tricarboxylic acid cycle**

tchanakh A white, brined cheese made from cow's or sheep's milk

tchukutu A millet beer

TD A symbol used on volumetric apparatus, meaning "to deliver"

TDE A toxic, chlorinated organic insecticide (tetrachlorodiphenylethane)



t distribution A sampling distribution used for samples less than 30 (at 30 it approaches the normal distribution); it has a higher peak and tails than the normal distribution; $t = 1.96$ ($n = \infty$) means that if a large sample was drawn from a normal population, 2.5% would have a t value greater than 1.96 and 2.5% would have a t value less than -1.96 .

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

\bar{x} = estimation of the mean

μ = population mean or a hypothetical mean to be tested (e.g., the difference in mean value $H_0: \mu = 0$)

s = estimation of the standard deviation

n = sample number (or number of pairs)

$df = n - 1$

The one-tailed test can be used when, by knowledge of the problem, values on one side of μ do not exist or have no meaning; to use a two-tailed table, use one-half of the probability indicated in the table; all the factors are the same.

Randomized groups:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{s_{(\bar{x}_1 - \bar{x}_2)}}$$

$$H_0: \mu_1 - \mu_2 = 0$$

$$s_{(\bar{x}_1 - \bar{x}_2)} = \sqrt{2s^2/n}$$

$$\text{pooled } s^2 = \frac{\text{pooled } \sum x^2}{2(n - 1)}$$

n = number in one group

$df = 2(n - 1)$

TDN Total digestible nutrients

1 g TDN = 4.41 kilocalories digestible energy (kcal DE)

1 lb TDN = 2000 kilocalories digestible energy (kcal DE)

See **total digestible nutrients**

TDT *See* **thermal death time**

TDT can A specially designed metal container used to determine thermal death time

TDT tube A specially designed tube used to determine thermal death time

Te The symbol for the element tellurium

tea 1) A low evergreen bush [*Camellia sinensis* (originally *Thea sinensis*)] whose leaves and buds are used to produce the beverage; over 20 varieties are grown; the leaves and shoots may be processed (including withering, rolling, fermentation, drying, sifting, and grading) before being used to make tea (the beverage).

High-grown—the higher the elevation of the growing area, the finer the quality of the tea; superior-quality tea is often grown above 10,000 feet. Black tea—leaves are rolled (which accelerates natural fermentation and releases oxidizing enzymes) before drying.

Leaf size—the smaller the leaf, the better the quality

Black tea rating [numbers (1, 2, 3, ...) also used]:

High-quality

Choice—new crop

Choicest

Choice

Finest

Fine

Superior

Good

Fair

Low-grade—Common

Grades according to leaf size:

Flowering pekoe—smallest leaf, highest quality; top leaf buds

Orange pekoe—next-highest quality; first-opened leaves

Pekoe—next-highest quality; third leaves

Souchong—largest leaf, lower quality; next leaves

Grades according to sifting:

High-quality

- Fifth sifting—broken orange pekoe
- Fourth sifting—flowery orange pekoe
- Third sifting—pekoe or orange pekoe
- Second sifting—pekoe souchong

Low-quality

Dust

Types of tea:

Brick tea—any kind of tea pressed into bricks for long-distance shipment

Broken orange pekoe—pieces broken from orange pekoe during processing

Broken pekoe—pieces broken from pekoe during processing

Butter tea—tea mixed with butter and salt, and churned until thickened

Darjeeling tea—the finest black tea of India; mostly grown above 10,000 ft

English breakfast tea (Congou tea)—black tea produced in China (sometimes mixed with black tea of India)

Green tea—unoxidized (unfermented) leaves; made by heating the leaf early in processing to prevent fermentation; light in color; graded according to quality of the leaf; has more tannin than black tea

Basket-fired—fired slowly at low temperature; hand-stirred, long leaves; little breakage; better flavor

Gunpowder—small leaves (youngest and smallest) from near the top of the plant; rolled tightly in balls

Imperial—large leaves that are rolled tightly in balls

Pan-fired—mechanically stirred; a lot of breakage

Young Hyson—larger leaves that are rolled in long rolls

Iced tea—brewed stronger than normal tea to allow dilution by ice

Jasmine tea—high-quality black or oolong tea scented with the fragrant white flowers of jasmine

Milk tea—tea with milk and salt added

Oolong—semifermented; a cross between green and black teas; graded according to quality

Pekoe and orange pekoe—often mixed to give the strength of pekoe and the flavor of orange pekoe

Scented tea—green tea with fragrant flowers added
Tea sifting—brews good quality tea; inexpensive because of poor appearance

To brew: use $\frac{1}{3}$ –1 tsp per 6 oz water (nearly but not actively boiling water); steep at least 5 minutes, but never more than 8–10 minutes.

The following are often added to tea: cream and sugar (to black tea), lemon (to light black tea and green oolong tea), and honey (to green tea)

To remove stain from cloth: If tea contains cream, spray with cleaning fluid, soak fresh stain in cool water, soak in warm water with enzyme product, and then wash.

Composition (loose or bag): caffeine (a stimulant) 2.5–5%; ash 5–6%; moisture 5–10%; tannin (gives body) 7–14%; extractives 33%; fiber 30–60%; nitrogen 5%; soluble matter 38–45%

Caffeine content:

1-min brew = 9–33 mg/5-oz cup

3-min brew = 20–46 mg/5-oz cup

5-min brew = 20–50 mg/5-oz cup

Instant tea = 12–28 mg/5-oz cup
= 28 mg/6-oz cup

Iced tea = 22–36 mg/12-oz can

Leaf tea = 41 mg/6-oz cup

Equivalents:

1 lb, leaves = $6\frac{1}{2}$ cups

= 300 cups, brewed

1 lb, instant = 13 cups

= 65 cups, prepared

1 cup, leaves = 70 g (2.5 oz)

1 cup, instant = 35 g (1.2 oz)

See also **black tea; green tea; oolong tea**

See Part 2: Essential Oils; Minerals, Food; Minerals (Trace), Limits; Nicotinic Acid, Food; Portion Size; Riboflavin, Food; Wastes, Agricultural and Industrial
2) A meal of small sandwiches or tea cakes and tea, usually taken at 4 or 5 PM (high tea is usually 6–7 PM), and sometimes a more substantial meal

Served at 4 PM:

Simple tea—biscuits (called cookies) and a pot of tea

Lavish tea—fancy cakes, hot toast, melted butter, sandwiches (filled with tomatoes or cucumbers and garnished with cress), and strawberry jam, as well as a pot of tea with hot water and hot milk

tea, afternoon A smaller meal than high tea

tea bag A porous cloth or fiber bag containing one serving of tea leaves

tea, blended A mixture of teas intended to balance the taste of the brew

tea bread A rice bread, usually made with milk, eggs, currants, sultanas, and chopped nuts; often served with tea

tea, broken Black tea that has been broken or cut during processing; has a stronger flavor than unbroken tea

tea cake A bun that contains citrus-fruit peel and currants

tea, cream Scones (baking-powder biscuits), a pot of whipped or clotted cream, and strawberry jam served with a pot of tea

teacup A measure of volume, usually less than 8 oz
1 teacup = approximately 120 milliliters (ml)

tea, flavored Black tea with artificial or natural flavoring added

tea fungus Teekvass

tea, herb(al) Generally contains no caffeine See **herb tea**

tea, high Supper or a light supper, served at about 6 PM; may include french fries, fried eggs, ham, oat cakes, and scones served with a pot of tea

tea, instant Store at room temperature (below 70°F shelf life 1 yr)

tear strip A strip with a projection that when pulled will open the container

754 tea, scented

tea, scented Some common types are as follows:
Cinnamon—Ceylon tea flavored with cinnamon
Earl Gray—black tea with oil of bergamot
Jasmine—oolong tea with jasmine blossoms
Lemon—lemon-flavored
Mint—black tea with peppermint leaves
Orange spiced—black tea with cloves and orange
Star anise—star-anise-flavored

tease 1) To disentangle fibers; card (wool). 2) To tear a tissue into small units for microscopic examination

teased See Part 2: Fatty Acids, Fats and Oils; Iodine and Saponification values; Oil or Fat, Characteristics; Refractive Indices, Fats and Oils; Titer, Fats and Oils; Unsaponifiable Matter

teased oil An edible oil extracted from a tealike plant

teaspoon (tsp) A measure of volume

1 tsp = 120 drops of water
= 60 drops of thick fluid
= approximately 3.5–4 milliliters (ml)
= approximately 1–1½ fluid drams
= $\frac{1}{3}$ tablespoon (tbsp)
= $\frac{1}{48}$ cup

2 tsp = 1 dessertspoon

3 tsp = 1 tbsp

6 tsp = 1 fluid ounce

See Part 2: Volume

teawurst A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned (with garlic) beef, not stuffed into casings See **teewurst**

tech. See **technical or commercial**

technetium (Tc) An element; at. no. 43; Group VIIB of the Periodic Table; mass number of most stable isotope 99; oxidation states +4, +6, +7; electron configuration 2–8–18–13–2
orbit K L M N O

technical or commercial (tech.) Designation of a grade of chemical purity; it is the lowest chemical grade and is not refined for laboratory use. See also **grade**

teekvass A beverage made by fermenting extracts of tea

teeschwamm Teekvass

Teeswater A large, fertile breed of English sheep used in crossing

teeth A number of bony structures in the mouth that are embedded in the jawbone and designed for chewing food; ruminants have teeth in only one jaw.

Data for cattle at various ages:

12 months—all calf teeth in
15 months—center incisors in
18 months—center incisors wearing
24 months—first intermediates through the gum
30 months—six incisors in
36 months—six incisors wearing
39 months—corners through the gum
42 months—eight incisors wearing

See Part 2: Teeth Eruption

teewurst (teawurst) 1) A sausage, similar to mettwurst, made from coarsely ground pork, beef, pork

feet, pork bellies, and bacon. 2) A soft-textured (spread), smoked (not cooked), semidry sausage made from finely chopped, medium-seasoned meat. 3) A semidry, uncooked, smoked western German sausage made from medium-seasoned beef and pork stuffed into beef or artificial casings. 4) A moist, semidry, uncooked, smoked Swiss sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings. 5) A sausage made from ground pork tenderloin

teewurst, fein A moist, uncooked, smoked eastern German sausage made from finely chopped, medium-seasoned beef and pork stuffed into artificial casings

teewurst, grob A moist, uncooked, smoked eastern German sausage made from finely or coarsely chopped, medium-seasoned beef and pork stuffed into artificial casings

teff (*Eragrostis tef*) A cereal grain similar to millet

Teflon The proprietary name for polytetrafluoroethylene, a chemically inert plastic used as nonstick coating on kitchen utensils

E-CTFE—withstands high temperature

ETFE—flexible; high mechanical strength and impact resistance

FEP—See **fluorinated ethylene propylene**

PFA—high mechanical strength at high temperature

TFE—See **tetrafluoroethylene**

See **nonstick coating**

teg A wether or ewe before the first shearing

tegulle A shallow-fried cake made from millet or sorghum flour

tehineh bread A crispy, crusty, baked bread (20-cm diam., 1 cm thick), covered with sesame seed

tej A sweet, fermented, alcoholic beverage made from honey and often flavored with fruit juice and spices

tejuino See **tesguino**

tekthe Chicha made from maize and guinoa

Telaautograph The proprietary name for a device for transcribing information over short distances, for example, from a restaurant counter to the kitchen: The order is written by the counter attendant with a stylus on a special tablet. This activates an electromagnetically controlled slave stylus at the other end, which duplicates the inscription.

teleme A white, brined, feta-type cheese made from cow's, goat's, or sheep's milk

teleorman A provolone-type cheese made from cow's and sheep's milk

teliani A red wine aged in oak casks

tella A sorghum beer

tellicherry Black pepper

tellurite glycine agar See Part 2: Microorganism, Media

tellurium (Te) A nonmetallic element; at. no. 52; at. wt. 127.61; Group VIA of the Periodic Table; oxidation states +4, +6, –2; electron configuration 2–8–18–18–6
orbit K L M N O

telophase The last phase of meiosis, characterized by the formation of two haploid nuclei and a division of the cytoplasm; in telophase II, the nuclear membrane forms and the cytoplasm divides.

telpanier (leaf cheese; tschil; zwirn) A cheese made from skimmed cow's or sheep's milk *See leaf cheese; tschil*

tembang A dried fish (*Sardinella* spp.)

tempe A dish made from beans (usually soybeans), covered with mold mycelium, that are placed in soy sauce or fish sauce or in a batter of maize or rice flour and coconut milk, or tamarind pulp; often fried

tempe bengook A legume tempe

tempe bongkrek Coconut press cake with soybeans, containing mold mycelium; fried in oil

tempe gembus Tempe made from the solid residue (tahu) of soy milk

tempeh The same as tempe; a fermented (*Rhizopus oligosporus* and *Streptococcus* spp.) soybean product that can also be made from coconuts and peanuts *See Part 2: Fungi Food Products*

tempe kedele Soybean tempe

tempe lamtoro Lamtoro-seed tempe

tempe mata kedele A lower-quality tempe made from soybean hulls

temper Hardness; T-1 through T-6 indicate increasing hardness; T-U (Universal) indicates that a material exhibits properties of T-3 through T-6

temperature 1) A measure of hotness or coldness; temperature manipulation is used to preserve foods: Canning
Cooking
Freezing

Refrigeration—used to store dairy products, fruits, meat, poultry, and vegetables

2) The thermal state of a solid, liquid, or gas considered in terms of its ability to communicate heat to other substances. 3) Body heat as measured by a thermometer:

Animal	Rectal temperature			
	Avg. (F°)	Range (F°)	Avg. (C°)	Range (C°)
Bird	—	105–107	—	40.6–41.7
Cat	—	98.9–102.2	—	37.2–39
Cattle	101.5	100–102.4	38.6	38–39
Chicken	—	104–107.6	—	40–42
Dog	101.5	101–102.5	39	38–39.1
Goat	103	—	39.4	—
Guinea pig	—	101.3–103.8	—	38.5–39.9
Horse	100.5	—	38	—
Man	98.6	—	37	—
Pig	102.6	—	39.2	—
Sheep	103	102–104	39.4	38.9–40.0

See also candy

See Part 2: Altitude Adjustments for Baking; Altitude Corrections for Boiling Water; Bacteria on Chickens at Various Holding Temperatures; Beef, Degrees of

Doneness; Beef Roasting; Broiling Time and Temperature; Frost Date, Autumn; Frost Date, Spring; Ice, Vapor Pressure; Lamb Roasting; Meat Storage; Relative Humidity; Roasting Meat; Steam, Properties; Temperature; Temperature of Vaporization, Latent heat of Vaporization, Boiling Point; Temperatures Corresponding to Gauge Pressure at Various Altitudes; Thermal-Arrest Time; Thermal-Death-Time Curve; Thermophiles; Transit Temperature; Volumetric Solutions, Temperature Corrections

temperature coefficient (Q_{10}) Defined as follows (with temperature T in degrees Celsius):

$$Q_{10} = \frac{\text{rate of reaction at temperature } T + 10^{\circ}\text{C}}{\text{rate of reaction at temperature } T}$$

Q_{10} is often between 2.0 and 3.0, and often is 2.3 (with many exceptions)

tempered (conditioned) Describes something (e.g., fat) that has reached a predetermined moisture level or temperature

tempering 1) In metallurgy, holding a metal (e.g., steel) at a given temperature for a specific time to achieve stability of crystal form. 2) In food processing, holding fat at a given temperature to achieve stability of crystal formation, which alters the plasticity of shortening

template A pattern, gauge, or guide

Temple orange *See tangor*

tempoyak A fermented durian with coconut and spices

tempura Deep-fried foods; vegetables, shrimp, or other seafood that have been batter-coated and French-fried (350°F); deep-fried shrimp, fish, or vegetables

tenancy The renting or leasing of land, e.g., by a farm operator

tenant protection Provisions designed so that both tenants and landowners are entitled to program benefits

tench (doctor fish; *Tinca tinca*) A small, carplike food fish

tender Easily broken; soft; easily masticated; the opposite of tough or hard; on a meat label this term means internal temperature of at least 140°F.

Tenderay Process A process for tenderizing meat by aging it for a short time at high temperature; bacterial growth is kept down by using ultraviolet light and shrinkage is reduced by using high humidity. An example of possible conditions is temperature 60°F, humidity 85–90%, and duration 3 days.

tender greens *See Chinese mustard*

tenderizer An enzyme (e.g., papain), weak acid, or salt or a process (mechanical or cooking) used to reduce toughness of meat

tenderloin (fillet of pork or beef) The muscle located below the backbone; lower muscle in the short loin; it is a boneless cut of meat and the most tender

756 tenderloin (fillet of pork or beef)

muscle; in beef it weighs 6–8 lb and is cut crosswise and flattened. *See also* **psoas major**
See Part 2: Beef, Boneless Cuts; Beef Cuts; Braising Time; Broiling Meat; Meat Identification; Pork Chart; Pork, Cooking; Pork, Cooking Methods; Pork Cuts; Pork Cuts and Uses; Pork Loin Cooking; Roasting, Time and Temperature

tenderness The state of being soft and readily chewed and digested

See Part 2: Tenderness of Poultry

tendon 1) The connective tissue that attaches muscle to bone. 2) Shrimp and rice

tenjan *See* **denjang**

Tennessee red-rind cheese A light yellow to dark blue, veined cheese

Tennessee whiskey A sour-mash whiskey

Tenox II The proprietary name for an antioxidant that contains 70 parts propylene glycol, 6 parts propyl gallate, 4 parts citric acid, and 20 parts butylated hydroxyanisole

See Part 2: Antioxidant Activity

tensor fascia lata A muscle of the thigh that runs from the ilium to the patella; in cross section of the round, it is the most cranial muscle.

tent caterpillar (webworm) The larval form of a white to brown moth; the moths are active near lights at night in June and July; the larva is a hairy caterpillar (1–2 in. long) that constructs tents of webbing on branches; the larvae feed on leaves, sometimes defoliating trees.

Control: Burn the webs.

tentiform leaf miner (*Lithocolletis* spp.) An insect that feeds on the leaves of pear trees

tenuazonic A mycotoxin produced by strains of organisms of the genus *Alternaria*, e.g., *A. solani* produces $C_{10}H_{15}NO_8$

tenure The control that a farmer has on the land that he or she farms

teosinte An annual grass similar to Indian corn; used for fodder

teou-fu *See* **tofu**

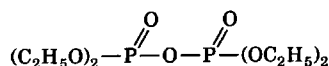
teou-fu-ru A sufu soybean curd

tepache Wine fermented from pineapple (*Ananas sativus*) with apple or other fruit

tepany bean (*Phaseolus acutifolius*) A semiarid legume used as a pulse and for hay

tepid Lukewarm

TEPP Tetraethylpyrophosphate; a toxic organic phosphorus insecticide



tepylsa A semidry, uncooked, smoked, spreadable Icelandic sausage made from finely chopped, medium-seasoned beef and pork, with pork fat added, sold in short, artificial casings

tequila Distilled pulque (maguey juice), an alcoholic beverage made from fermented agave juice (obtained

from the heads of a desert cactus); usually consumed with a pinch of salt; 90–160 proof

tequila sunrise An alcoholic beverage made by adding 2–3 dashes of grenadine to an 8-oz glass filled with ice cubes, adding $1\frac{1}{2}$ oz (1 jigger) tequila, and filling with orange juice; do not stir

tera- A prefix for quantities one trillion (10^{12}) times larger than the base unit

terabelese A pocketed flatbread

teranatto A strong, black, soybean paste used as flavoring

teratogen An agent or disease that causes birth defects or the malformation of a fetus or developing embryo

teratogenesis Abnormal development *in utero*

terbium (Tb) A rare-earth element of the lanthanide series; at. no. 65; at. wt. 158.93; Group IIIB of the Periodic Table; oxidation state +3; electron configuration 2–8–18–26–9–2 orbit K L M N O P

teres major A muscle of the chuck, filling the angle between the scapula and the humerus; it lies medial to the triceps and is attached to the upper part of the humerus.

tergitol agar *See* Part 2: Microorganism, Media

teriyaki sauce A flavored soy sauce available in ready-to-use form and as a dehydrated mix

Composition	Dehydrated		
	Dry	Prepared with water	Ready-to-serve
Moisture (%)	1.0	83.9	67.9
Protein (%)	9.0	1.5	5.9
Fat (%)	2.0	0.3	0.0
Carbohydrate (%)	60.0	9.8	15.9
Ash (%)	28.0	4.6	10.4

Sodium content: 690 mg/tbsp (18 g)

terminal market A place where animals are gathered and sold for an owner, for a commission

termite A white ant that burrows into wood; its stomach contains an enzyme that enables it to digest cellulose.

Termitomyces A genus of mushrooms associated with termite mounds

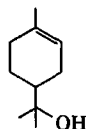
terne (85% lead, 15% tin) Used to make cans

Teroldego 1) A variety of grape. 2) A red, full-flavored, Italian wine

terpene $[(C_5H_8)_n]$ One of a series of unsaturated hydrocarbons found in the essential oils of citrus fruits; they are usually removed to reduce oxidative spoilage. Terpenes are also obtained from coal or are made synthetically and are used as a masticatory substance in chewing gum.

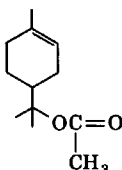
Storage: tight container

terpeneless oil An essential oil from which the hydrocarbon portion has been removed by fractional distillation; an essential oil with most of the terpenes removed, which makes the oil more soluble and less likely to oxidize and which also increases flavor

terpineol

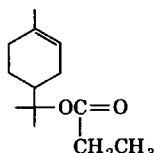
Used as a lilac-like flavoring agent in food; sp. gr. 0.930–0.935

Storage: full, tight, glass container in a cool, dark place

terpinyl acetate

Used as a lavender-like flavoring agent in food; sp. gr. 0.952–0.962

Storage: full, tight, glass container in a cool, dark place

terpinyl propionate

Used as a floral-like flavoring agent in food; sp. gr. 0.944–0.950

Storage: full, tight, glass container in a cool, dark place

terpy Having the odor of terpene or linalyl cinnamate

Terramycin The proprietary name for the antibiotic oxytetracycline

terrapin (*Malaclemys* spp.) A name used for several varieties (e.g., diamondback, yellow-bellied, red-bellied) of freshwater, edible turtles; an American edible turtle

terrinen A moist or semidry, cooked, unsmoked Swiss sausage made from medium- or coarse-chopped, medium-seasoned beef, pork, and veal not stuffed into casings

tertiary A carbon atom that is united by three valences to a chain or ring, e.g.,



tertiary butylated hydroquinone (TBHQ) An antioxidant and preservative permitted in food; maximum of 0.02% of the fat or oil in a product
See Part 2: Antioxidant Mixtures

tertiary butylhydroquinone An antioxidant food additive used in fats, oils, and snack foods

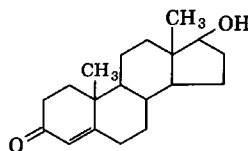
tertukha Wine

tesguino A thick chicha made from maize

testa The protective covering of the seed embryo
See Part 2: Rice Kernel; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins

testicle (male gonad) A male reproductive gland located in the scrotum

testis A male reproductive organ; plural, testes
See Part 2: Gland Weights; Organ Weights

testosterone

A steroid androgen, produced by the testis; responsible for libido and secondary sexual characteristics

testouri A panir-type cheese made from sheep's or goat's milk

teta (perilla) A pear-shaped cheese made from cow's milk

tetanus (lockjaw) A disease caused by a toxin produced by *Clostridium tetani*

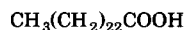
tetany Localized, spasmodic, muscular contractions

tête de moine A tilsit-type cheese

tether To tie an animal in such a way as to permit grazing

tetra- A prefix used to indicate "four"

tetracosanoic acid (lignoceric acid)

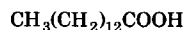


A saturated fatty acid found in peanut oil
See Part 2: Saturated Fatty Acids

tetracosenoic acid See Part 2: Fatty Acids and Their Properties

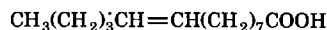
tetracycline ($\text{C}_{22}\text{H}_{24}\text{N}_2\text{O}_8$) An antibiotic added to food in some countries
See Part 2: Antibiotic Standards

tetradecanoic acid (myristic acid)



A saturated fatty acid found in coconut oil
See Part 2: Saturated Fatty Acids

tetradecenoic acid (myristoleic acid)



An unsaturated fatty acid found in certain plant seeds

See Part 2: Milk, Fatty Acids, Seasonal; Unsaturated Fatty Acids

tetrad A group of four coccus cells arranged as a square

tetrafluoroethylene (TFE) An opaque, white Teflon with a low friction coefficient; used for stopcock plugs

tetra pack A four-sided carton used for milk and beverages

tetraphosphate A cleaning compound that has good calcium-sequestering power; it is readily soluble in warm water but unstable at high temperature or in highly alkaline solutions. See also **phosphate**

758 tetrasodium pyrophosphate

tetrasodium pyrophosphate (sodium pyrophosphate; sodium polyphosphate) See Part 2: Detergent Properties

tetrathionate broth See Part 2: Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

tettemelk See *taette*

Texas hide A hide that is branded on the rump or side and that is plump and close-grained

Texas root rot See *root rot*

texel A green cheese made from sheep's milk

texture A property of the composition or structure of a food; the visual and tactile perception of such things as roughness or smoothness and graininess, e.g., form and structure as perceived by the senses of sight and of touch (in the mouth); the properties of food evaluated visually (color, form, size, and arrangement) or by pressure on receptors of the skin or muscles (smoothness, coarseness, moistness, composition, tenderness, hardness); the texture of food is often characterized by grain (size of cells), the character of the crumb, the distribution of cells, and the thickness of cell walls; texture in food also often involves fineness of particles, smoothness, and lightness or porosity.

textured vegetable protein (TVP) Isolated plant protein processed to simulate the texture and flavor of an animal product (e.g., meat)

texturizer A substance used to impart body, to improve consistency or texture of a food, or to stabilize an emulsion

Th The symbol for the element thorium

thai-lan A fish sauce

thallium (Tl) A metallic element; at. no. 81; at. wt. 204.39; Group IIIA of the Periodic Table; oxidation states +1, +3; electron configuration 2-8-18-32-18-3 orbit K L M N O P

thallus A plant not differentiated into root, stem, and leaf, e.g., seaweed, algae

thaw To change from frozen to liquid state; defrost; melt
To thaw 1 lb of syrup-packed fruit:
6-8 h—in the refrigerator
2-4 h—at room temperature
0.5-1 h—in cool water

Thayer Martin medium See Part 2: Microorganism, Media

thé Tea

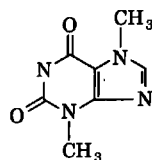
theave A ewe between the first and second shearings

theeworst A moist, pork teewurst; a moist, uncooked, smoked Dutch sausage made from finely chopped, medium-seasoned pork, fermented and stuffed into artificial casings

theine See *caffeine*

thenay A soft, camembert-type cheese made from whole milk with rennet added

theobromine An alkaloid in the cacao bean (1.5-3%), cola nut, and tea; not quite as stimulating as caffeine



theoretical plate (n) In gas chromatography; defined as

$$n = 16 \left(\frac{\text{retention volume}}{\text{peak width}} \right)^2$$

theory An imaginative explanation of facts

therapeutic Of or relating to the art of healing or the treatment of disease

therm- A prefix meaning "relating to heat"

thermal Of or pertaining to heat

thermal arrest See Part 2: Thermal-Arrest Time

thermal capacity The amount of heat required to raise the temperature one degree Celsius

thermal death point The temperature required to kill bacteria in 10 min

thermal death time (TDT) The time required to destroy a specific microorganism at any given temperature See *decimal reduction time; F₀ unit; F unit*

See Part 2: Thermal-Death-Time Curve

thermal processing Subjecting sealed containers of food to heat long enough to insure continuing sterility and preservation of the contents

thermal resistance A measure of the amount of heat required to kill a microorganism

thermo- A prefix used to indicate heat

thermoacidurans agar See Part 2: Microorganism, Culture Media, Dairy and Food Products

thermocooling Rapid heating and cooling of sealed containers of food, accomplished by sprays or baths, usually at progressively decreasing temperatures

thermocouple A thermoelectric instrument (pyrometer) used to measure interior temperatures by electromotive force; constructed of two wires of different electrically conductive metals joined at one end, e.g., copper and constantan (25.54 mV)

thermoduric A non-spore-forming microorganism that is resistant to heat

See Part 2: Sanitizing Chemicals

thermogenesis The production of heat within an organism because of low environmental temperature

thermograph An instrument that automatically records temperature

thermolabile Sensitive to heat

thermometer An instrument used for measuring temperature, usually by the expansion of mercury or alcohol or the differential expansion of two strips of different kinds of metal

Thermometer reading up to:

- 108°F—used for yogurt
- 212°F—used for bottling
- 400°F—used for sugar
- 500°F—used for frying
- 500°F—used in the oven

thermophile (thermophil) A heat-loving organism, e.g., one with an optimum growth temperature above body temperature (45°C and above, often 55–65°F); spores able to survive heating

See Part 2: Microbiological Media; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Thermophiles

thermophilic bacteria Bacteria that can grow at a high temperature and produce highly resistant spores; minimum growth temperature 35–40°C; optimum growth temperature 55–60°C; maximum growth temperature 65–75°C

thermoplastic An organic material that can be repeatedly softened by heating and hardened by cooling

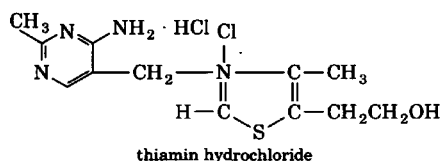
Thermos The proprietary name for a vacuum bottle used for maintaining the desired temperature of a food or drink

thermostat An instrument that automatically regulates temperature by means of a feedback mechanism

theta (Θ, θ) The Greek letter with an English equivalent of th; the symbol usually used for an angle in mathematics

thiabendazole A drug used as a wormer

thiamin (aneurin; thiamine; vitamin B₁)



A water-soluble vitamin often known as vitamin B or B₁; it functions in carbohydrate metabolism (decarboxylation of carbon dioxide from pyruvic acid) and if deficient in the diet, the visible symptoms of beriberi or polyneuritis develop.

Sources: bran (of grains); brewer's yeast; chard; egg yolk; fortified foods; heart; kidneys; lima beans; liver; nuts; peanuts; peas; pork muscle; rice polishings; spinach; wheat germ; whole-grain products

Used as a food additive to maintain or improve nutritional value

3 μg pure vitamin = 1 IU

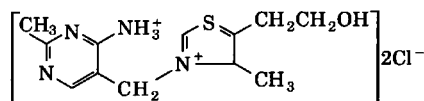
Functions: promotes appetite, growth, and reproduction.

Usually sold as the hydrochloride; made synthetically
See Part 2: Beans, Peas, and Nuts; Beef, Percentages of Daily Recommended Allowances; Cereal Enrichment; Cereal Fortification; Cereal, Nutrient Content; Cereals, Vitamin and Mineral Content; Cheese Composition; Cheese, Vitamin Content; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish, Composition; Flour, Extraction Rates; Food, Composition; Fruit and Veg-

etables Composition; Fruit Composition; Grain Analysis; Grain Products, Composition; Lamb Percentages of Daily Recommended Allowances; Lemon Juice, Composition; Lime Juice, Composition; Macaroni and Noodles, Composition; Meat Composition; Meat, Nutritive Value; Milk and Milk Products, Vitamin Content; Milk Composition; Olives and Pickles, Composition; Plant Foods, Composition; Pork, Percentages of Daily Recommended Allowances; Poultry Composition; Recommended Daily Dietary Allowance; Sausage Composition; Sausage Nutritive Value; Seed, Chemical Composition; Soups, Composition; Sugars and Sweets, Composition; Sweet Potato, Nutritive Value; Thiamin; Thiamin, Daily Recommendations; Thiamin, Food; Tomato and Tomato Products, Composition; Variety Meat Percentage of Daily Recommended Allowances; Vegetable Composition; Vitamin Retention, Meat; Vitamins; Vitamin Sources, Functions, and Stability; Wheat, Parts of Grain, Vitamins; Wheat Products, Composition; Wheat, Vitamins

thiamine See thiamin

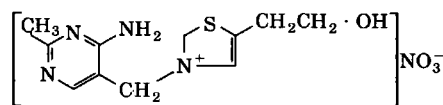
thiamine hydrochloride



Used as a nutrient or dietary supplement

Storage: tight container in the dark

thiamine (thiamin) mononitrate



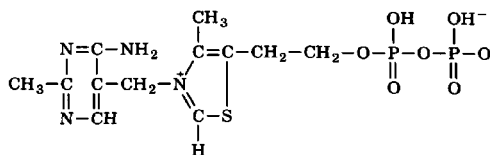
Used as a food additive to maintain or improve nutritional value, and as a nutrient or dietary supplement; a white crystal used in multivitamin mixtures and to enrich flour

1 g = 343,000 IU

Storage: tight container in the dark

thiamin hydrochloride See thiamin

thiamin pyrophosphate A coenzyme that usually functions in a reaction where CO₂ is split out of the substrate



thibarine A dark liqueur made from dates (*Phoenix dactylifera*)

thick 1) High in viscosity; low in fluidity; less-converted. 2) Of tea, a measure of strength and color

thickback [*Solea (Microchirus) variegata*] A food fish

760 thicken

thicken To decrease the viscosity of a liquid by adding such ingredients as cornstarch, eggs, or flour

thickener A substance used to impart body, improve the consistency or texture of a food, or to stabilize an emulsion; works by absorbing water; a hydrophilic colloid that increases the viscosity and smoothness of such foods as custards, gravies, ice cream, etc. (e.g., gelatin)

See Part 2: Stabilizers, Thickeners

thick filament One of two types of protein filament in muscle tissue (10–1500 nm diam.); myosin is the major protein.

See Part 2: Myofibrillar Proteins of Muscle

thickness 1) The vertical dimension of a solid; sometimes called gauge. 2) The viscosity of a liquid, e.g., oil

See Part 2: Film Gauge

thielaviopsis stalk rot A rot caused by a wound parasite (*Thielaviopsis paradoxa*); called black rot in pineapples and main-stalk and finger-stalk rot (neck rot, black neck rot) in bananas: In main-stalk rot the affected area becomes black, soft, and water-soaked; in finger-stalk rot the peel acquires an uneven black color and the pulp becomes dark brown and soft.

thimbleberry (*Rubus occidentalis*) A wild, light red raspberry

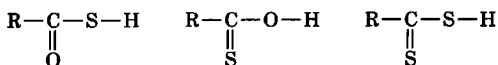
thin 1) Of tea, a measure of strength and color. 2) To make a liquid less viscous by adding liquid. 3) Describes flavor or texture lacking in substance, density, richness, or strength. 4) Having low viscosity; high fluidity; more-converted

thin filament One of two types of protein filament in muscle tissue (6–1000 nm diam.); contains the proteins actin (forms the beaded backbone), tropomyosin (regulatory function), and troponin (regulatory function)

See Part 2: Myofibrillar Proteins of Muscle

thinning See **diluting**

thio- A prefix that indicates the presence of divalent sulfur in an organic compound:



thiocyanate ion CNS^-

thiodipropionic acid $[(\text{CH}_2\text{CH}_2\text{COOH})_2\text{S}]$ A food preservative and antioxidant

See Part 2: Antioxidant Structure

thioether ($\text{R}'-\text{S}-\text{R}$) A group of compounds similar to ethers but with the oxygen atom replaced by sulfur See also **alkylthioalkane**

thioglycollate A medium used to grow *Clostridium perfringens*

See Part 2: Microbiological Media; Microorganism, Media

thiol (mercaptan) A group of organic compounds similar to alcohols but having a sulfhydryl group ($-\text{SH}$) instead of a hydroxyl group ($-\text{OH}$); formerly called mercaptan

β -thiolalanine See **cysteine**

thiol medium See Part 2: Microorganism, Media

thirst The sensation of dryness of the mouth and throat when the body's water supply becomes limited

thixotropic gel A colloidal gel that will liquefy when slight pressure is applied and will return to its original form after release of pressure

Thompson A late variety of Florida grapefruit

Thompson Seedless A variety of grape

thoracic Pertaining to the thorax, or the part of the body between the neck and the abdomen

thoracic vertebrae The area of the backbone to which the ribs are attached

Number of thoracic vertebrae for meat animals: beef 13; chicken 7; hog 14–15; lamb 12–14; rabbit 12

See Part 2: Bone

thorium (Th) A radioactive metallic element of the actinide series; at. no. 90; at. wt. 232.15; Group IIIB of the Periodic Table; oxidation state +4; electron configuration 2–8–18–32–19–9–2 orbit K L M N O P Q

thoroughly cooked See **smoked meat**

thousand island dressing A salad dressing made from celery, chili sauce, chopped eggs, green peppers, mayonnaise (eggs, salt, vegetable oil, and vinegar), onions or chives, pimiento, spices, sugar, sweet pickles, tomatoes, and water

Recipe might be, e.g.:

$\frac{1}{2}$ cup mayonnaise
 $\frac{1}{4}$ cup chili sauce
 2 tbsp chopped pimiento-stuffed olives
 2 tsp chopped parsley
 2 tsp chopped pimiento
 $\frac{1}{4}$ tsp lemon juice
 $\frac{1}{8}$ tsp onion powder
 8 capers

Sodium content: 109 mg/tbsp (16 g, regular), 153 mg/tbsp (14 g, low-calorie)

See Part 2: Fats and Oils, Composition; Salad Dressing and Mayonnaise Variations

thousand-year-old egg See **hundred-year-old egg**

thrash (thresh) To separate grain or seed from straw by beating

thread A spiral depression

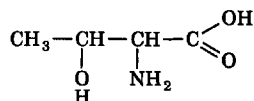
thread herring (*Opisthonema oglinum*) A food fish

threadworm See **pinworm**

three-necked flask Used, among other things, to determine thermal death time

three-piece can A can with top, bottom, and body

threonine An essential monoamino, monocarboxylic, monohydroxy amino acid:



Used as a nutrient or dietary supplement

Storage: tight container in the dark

See Part 2: Amino Acids; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions; Wheat Products, Composition

threose See Part 2: Sugar, D-Aldehyde

thresher (*Alopias vulpinus*) A food fish

threshold (limen) 1) Absolute threshold, the threshold of sensation or detection; stimulus threshold (RL), the level below which there is no response to a stimulus. 2) Difference threshold (DL), the least amount of change necessary to produce a change in sensation; the unit used is jnd (just-noticeable difference). 3) Recognition threshold or identification threshold, the minimum concentration that can be identified correctly. 4) Terminal threshold, the concentration above which there is no increase in perceived intensity

thrip Any of several winged, slender-bodied insects (less than $\frac{1}{8}$ in. long); may be

California—*Scirtothrips citri*; causes a corky ring around the stem end

Florida

Frankliniella bispinosa; causes a corky ring around the stem end

Chaetanaphothrips orchidii; causes damage similar to rust-mite russeting

Thrips suck sap from leaves and buds and cause leaves to curl upward; they sometimes produce scars on young fruit (which enlarge as the fruit grows) and can damage citrus fruit by feeding on the surface; also a peanut pest See **bean thrip**; **western flower thrip**; **pear thrip**

See Part 2: Insect Control

throatlatch The point at which the throat joins the jaw

thrombi (plural of **thrombus**) Blood clots, especially in the heart, brain, or extremities

thrombin An enzyme in blood that converts fibrinogen to fibrin, which aids clotting

thrombosis The occurrence of coagulated blood, causing obstruction of a blood vessel

thrush A disease affecting the feet of certain animals

thua-nao Strongly flavored, dark brown soybeans, sometimes with wheat, in a dark brown paste

thulium (Tm) A rare-earth element of the lanthanide group; at. no. 69; at. wt. 168.94; Group IIIB of the Periodic Table; oxidation state +3; electron configuration 2-8-18-31-8-2 orbit K L M N O P

thumba A millet beer

thuong hang A fish sauce

thüringer A finely chopped, tangy-flavored German summer (semidry) sausage containing mostly beef and some pork (some types contain principally pork) with heavy smoke; originated in Thuringia (Thüringen) in Germany; the American version is generally made from pork, though it may also include veal and beef; the beef is never warmed above 95-110°F and retains most of the nutritive properties of the raw product; contains lactobacilli bacteria. It is generally a sharp (sometimes not fermented), semidry (mois-

ture-to-protein ratio of 3.7:1 or less), cooked (sometimes not cooked), smoked or unsmoked sausage. The American version is a semidry, uncooked or cooked, smoked cervelat-type (may be fresh) sausage made from medium-chopped, mildly seasoned beef and pork (with pork variety meats and by-products), is fermented and stuffed into pork or artificial casings.

Types:

AC—artificial casing

Cervelat—a tangy summer sausage seasoned with pepper and ginger

Ebony—black artificial casing; heavily smoked

HC—natural hog casing

Jumbo—13-16 lb

Old smokehouse—heavily smoked; black

Slicer—3.25-in. diam.; 13 lb

Composition: moisture 48%; protein 16%; fat 30%; carbohydrate 2.3%; ash 3.7%; sodium 320 mg/slice (22 g)

See Part 2: Sausage Identification; Sausage Nutritive Value; Sausage, Types

thüringer cervelat A tangy-flavored, mild, semidry sausage made from beef and ham or pork fat

thüringer, fresh A sausage made from pork with some beef and veal and seasoned with salt and pepper; a moist, uncooked, unsmoked American sausage made from medium-chopped, mildly seasoned beef, pork, and veal stuffed into pork or artificial casings; if American, the product must be labeled "Thüringer Brand made in USA"

thüringer rotwurst A moist, cooked, smoked western German sausage made from finely and coarsely chopped, medium-seasoned pork, with blood and ground skin, stuffed into artificial casings; a moist, cooked, unsmoked eastern German blood sausage made from fine- or medium-chopped, medium-seasoned pork stuffed into pork or artificial casings

thyme (*Thymus vulgaris* L.; *T. zygis* L.) The gray-green dried leaves ($\frac{1}{4}$ in. long) and purple flowering tips of a perennial (85 days) shrub of the mint family; used as an herb and as a tea; the pungent, piney, aromatic leaves are sold (green or dried) in bunches and are a source of the volatile oil thymol. There are more than 60 known types of thyme. The harvested clippings are dried and either left whole or ground (medium to medium-fine grind) and stored in airtight containers. The aroma may be described as aromatic, herbaceous, and sweet, having the odor of thymol. The flavor may be described as bitter, herbaceous, medicinal, spicy, and warm.

Types:

Broad-leaved—most common

Lemon thyme (*T. serpyllum*)—also called mother of thyme and creeping thyme

Narrow-leaved

Variegated leaf

Varieties:

Caraway (*T. herb barona*)

Garden, or commerce (*T. vulgaris*)

Golden lemon (*T. vulgaris aureus*)

Lemon (*T. vulgaris citriodorus*)

Orange

Silver lemon (*T. vulgaris argenteus*)

Wild or creeping (*T. serpyllum*)

Woolly (*T. serpyllum lanuginosus*)

762 thyme (*Thymus vulgaris* L.; *T. zygis* L.)

Best types: English; French

Used in: meat loaf; sauces; soups; stews; stuffing

Sources: France; Spain

Composition (dried): moisture 7–8% (10% max.); protein 9–10% (fresh 2%); fat 7–8%; carbohydrate 63–64%; fiber 18–19%; ash 11.5–12%; volatile oil avg. 1% volume/weight (min. 0.9% volume/weight); total ash not more than 14%; acid-insoluble ash not more than 4%

See Part 2: Essential Oils; Flavoring Agents, Natural; Spices, Microbial Content

thyme butter Soften one-half stick, unsalted, sweet butter; add 1 tbsp finely minced, fresh thyme or $\frac{1}{2}$ tsp dried thyme; cream together, adding a few drops lemon juice.

thyme honey A popular Greek honey

thyme jelly A flavored jelly made using the following procedure:

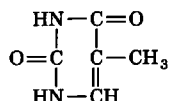
1. Make an infusion by pouring $2\frac{1}{2}$ cups boiling water over 1 cup fresh thyme.
2. Let it cool, and strain.
3. To 2 cups thyme infusion add $\frac{1}{4}$ cup vinegar or apple cider and $4\frac{1}{2}$ cups sugar.
4. Boil the mixture until the sugar is dissolved and add $\frac{1}{2}$ bottle liquid pectin. Use a rolling boil for $1\frac{1}{2}$ minutes.
5. Remove from heat and add one or two drops of food coloring if desired.
6. Fill sterilized glasses and seal with melted paraffin.

thyme oil A volatile oil obtained by steam distillation of the flowering parts of the *Thymus vulgaris* or *T. zygis* plant; reddish brown or yellow (rectification produces a colorless product); used as a thymelike flavoring agent in food; optical rotation -3° to 0° ; refractive index 1.495–1.505 at 20°C ; sp. gr. 0.915–0.935 g/ml

Storage: full, tight container in a cool place

thyme syrup Native honey mixed with strong thyme tea

thymine A constituent (pyrimidine base) of nucleic acid



thymol A naturally occurring substance that is used as a flavoring

thymol blue ($\text{C}_{27}\text{H}_{30}\text{O}_5\text{S}$) A pH indicator that is pink at pH 1.5, yellow between 2.8 and 8, and blue at 9.6 and above

thymol phthalein ($\text{C}_{28}\text{H}_{30}\text{O}_4$) A pH indicator that is colorless below pH 9.8 and blue at higher values

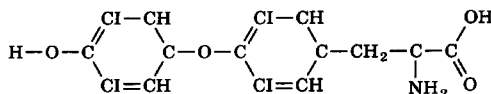
thymol red A pH indicator with pH range 1.2–1.8; red in acid and yellow in the base direction

thymus A cream-colored lobed and ductless gland located in the neck, near the chest; it inhibits the activity of the sex glands in the young and atrophies after puberty; produces various hormones and aids maturation of T lymphocytes *See also* **sweetbread**
See Part 2: Gland Weights; Organ Weights

thyroid A dark-colored ductless gland located on both sides of the windpipe and below the larynx; a deficiency of dietary iodine will cause enlargement of the gland (goiter).

See Part 2: Gland Weights

thyroxine (thyroxin) An iodine-containing amino acid hormone secreted from the thyroid gland; controls the rate of metabolism



Ti The symbol for the element titanium

tia maria A rum liqueur flavored with coffee and Jamaican spices

tian-dian Dessert

tiaourt Yogurt

Tibet Dried, hard spheres of fermented goat's milk or milk curds; a hard (grating) cheese made from sheep's milk

Tibetan dwarf goat A breed of small goat (may be red and white, brown and white, black and white, brown, or white) raised for its pelt and found in the mountains of Tibet and the Himalayas

Tibetan sheep A hardy breed of thin-tailed sheep (white with colored spots and black or brown head and legs) raised for pelts, wool (carpet grade), and mutton and used as a draft animal

Tibet cattle A breed of small cattle, of variable color, with no hump and medium-sized horns

tibi A type of ginger beer made from figs and raisins

tibia The large hind shank bone that articulates with the femur; larger than its sometimes parallel partner the fibula

See Part 2: Bone

tibicos A starter culture used to inoculate colonche

tibits Pickled fish, usually herring

tic (tick) *See* **broad bean**

t.i.d. *Ter in die* (Latin for three times a day)

tidere A sorghum beer

tie A depression in the back of cattle caused by the attachment of the hide to the backbone

tieflanderkäse A Swiss cheese made from cow's milk

tien chiu niang *See* **chiu niang**

tien mien chang A flavorful paste made from soybeans and wheat (steamed bread)

tierce A measure of volume equal to 42 wine gallons; a cask or container holding this amount

tiering Directing benefits of federal price support programs toward smaller or medium-sized farms

tiffin A light lunch or afternoon tea (British)

tiger lily (gum jum) The dried flower buds (called golden needles) are used in oriental cooking

tiger lily buds Sweet-flavored dried blossom; used in oriental cooking

tiger nut (earth almond) Corms that may be consumed raw or roasted *See chufa*

tiger shark (*Caleocercus cuvieri*) A food fish

tiges Dried meat

tightened inspection Inspection under a sampling plan by which the same number of samples are selected but with lower acceptance and rejection numbers; very few unacceptable lots will be accepted.

tightness The degree of compression to which a can's double seam is rolled by the sealer's second operation

tignard A hard blue cheese made from goat's or ewe's milk with rennet added

tilkitiki Rice polishings; also an alcoholic extract of rice polishings that is used as a thiamine supplement

til Sesame seed

tilapia An African food fish

tile fish (*Lopholatilus chamaeleonticeps*) A large (4–30 lb), saltwater food fish of the Atlantic and Gulf Coast; chewy, firm, gray flesh with good flavor

tillage Plowing and cultivating soil for growing crops and keeping it free of weeds

tillamook A mild to sharp, cheddar-type cheese made from raw milk

tiller A shoot originating at the basal node in grass; extra or secondary stems or culms that arise from the base of the plant

tilsit A mild, semihard, Danish or central European cheese that is firm-textured, with many small holes; made in a large wheel or loaf shape (3–6 kg); made from whole cow's milk with rennet added and sometimes flavored with caraway seeds

Composition: moisture 42–43%; protein 24–25%; fat 25–26%; carbohydrate 1–2%; fiber 0%; ash 4–5%

tilsiter A yellow, semihard cheese that is made from whole or skimmed cow's milk; its flavor ranges from mild to medium and it is sometimes flavored with caraway seed.

See Part 2: Cheese, Vitamin Content; Vitamin A, Milk and Milk Products

timbale A round pastry that may be filled with a variety of materials; a custard

timbleberry A light red raspberry

time value The value of the premium less its intrinsic value; the longer the duration of the option contract, the higher the time value and the higher the premium.

timing purchases A buyer's evaluation of when and how much to buy

timing switch A mechanically clock-driven electrical interrupter

timothy (*Phleum pratense*) A grass with long cylindrical spikes used for hay; 45 lb timothy seed/bu; plant 5 lb/acre; approximate amount of nutrients used for 1 ton hay: N 20 lb; P₂O₅ 6 lb; K₂O 27 lb
See Part 2: Nutrients in Crops; Seed, Germination

tin (Sn) A metallic element; at. no. 50; at. wt. 118.70; Group IVA of the Periodic Table; oxidation states +2, +4; electron configuration 2–8–18–18–4 orbit K L M N O

See also tin can

See Part 2: Minerals (Trace), Limits

tinapa Bangus or milk fish that are smoked (55–64% moisture)

tin can Made from mild steel plate with a thin (1.5% of total) coat of pure tin; tin resists corrosion in the absence of oxygen

Sealing compound: rubber (or synthetic rubber) in benzene, dusted with asbestos powder

Solder: 2% tin and 98% lead solder (evaporated milk cans, 30% tin and 70% lead solder)

Used for processing and storing food; the tin coating is slightly reactive to both acids and alkalis and is somewhat soluble in fruit and vegetable acids in the presence of air but is practically insoluble in closed containers; there is no evidence that tin will migrate to food in harmful amounts from utensils or cans.

See can; canning

tin coating A layer of tin applied to both surfaces of sheet steel

tin crystals Appear as a frostlike pattern on etched tinplate

Grade: a lower number means larger tin crystals and better corrosion resistance

tincture Plant material in a solution of alcohol or hydroalcoholic menstrum

tin foil A thin sheet of tin–lead alloy used for packaging

tin-free steel Tin-free steel plate is used in beer and carbonated beverage containers.

tin-free steel, chromium-type Tin-free steel that has chromium and chrome oxide added to improve appearance and aid in resistance to rust and corrosion

Ting A black pig found in Hopeh (Hebei) Province of northeastern China, obtained by crossing Poland China with a local breed

ting A sour porridge made from millet or sorghum

tin plate Steel or other metal coated with tin, either by dipping or electroplating:

Hot-dipped—black plate is pickled, passed through flux, through molten tin, and through palm oil.

Electrolytic—black plate is coated by electrodeposition of tin, which is then melted to improve appearance and properties; coating thickness can be lower than hot-dipped

See Part 2: Cans, Construction

Tinsdale base *See Part 2: Microorganism, Media*

tintilla de rota A dark red, Spanish wine

tintometer An instrument for measuring color by comparison with colored glass or standard solutions

tip 1) To seal a small opening in a container with solder. 2) A cut of meat *See knuckle; top sirloin*
See Part 2: Beef Cuts; Beef Round Cuts; Meat Identification; Roasting, Time and Temperature

tip burn A physiological condition or disease of lettuce, causing dark brown spots along the margins of the outer leaves of the head

tip cap See Part 2: Corn Kernel Composition

tip deterioration See *endoxerosis*

Tip Top melon An oval, pink-fleshed melon with a gray rind

tiquira A local gin distilled from cassava

tirlitunga A dry, uncooked, heavily smoked Norwegian sausage (salami) made from medium-chopped, mildly seasoned beef, lamb, goat, and horsemeat, fermented and stuffed into artificial casings

tiroler A moist, cooked, smoked Austrian sausage made from coarsely chopped, medium-seasoned (with nitrite) beef and pork stuffed into beef or artificial casings with a diameter of greater than 40 mm

tiroler graukäse A tangy-flavored blue cheese that is made from cow's milk and washed with *Penicillium* during maturation

tisane 1) A tea brewed from chamomile leaves. 2) Herb tea

tissue A group of similar cells that perform a particular function, e.g., blood, muscle
See Part 2: Gland Weights

tissue culture A technique of keeping parts of animal or plant tissue alive after removal from the organism

titanium (Ti) A metallic element; at. no. 22; at. wt. 47.90; Group IVB of the Periodic Table; oxidation states +2, +3, +4;
electron configuration 2-8-10-2
orbit K L M N

titanium dioxide (TiO_2) A white pigment (found in minerals) used in paints, paper, and plastics and used to color candy, confectionery ink, and gums; max. 1% of the weight of the food

titer (titre) 1) The amount of substance A that will correspond to a given amount of substance B. 2) The solidification point of a saponified fatty acid: Fat is saponified and the fatty acids are separated from the glycerol as soap; the soap is treated with sulfuric acid to liberate the fatty acids, which are cooled until they freeze; this freezing point is known as the titer (a measure of hardness)

Mutton fat—titer over 40°C

Pork or beef fat—titer under 40°C

See Part 2: Titer, Fats and Oils

titration The operation of determining the concentration of a given volume of solution by reacting it with a measured volume of a solution of known concentration in the presence of an indicator

titre See *titer*

Tl The symbol for the element thallium

TLC Thin-layer chromatography

Tm The symbol for the element thulium

TMM broth See Part 2: Microorganism, Media

to A thick porridge gruel made from sorghum or millet

toast 1) To brown by direct heat, e.g., bread; to subject bread to dry heat, which converts starch to dextrin. 2) A slice of bread browned on both sides; if placed in a rack, it becomes crisp due to the evaporation of moisture; if buttered, it becomes soft. 3) A proposed honor offered prior to drinking

See Part 2: Portion Size

toasted Browned, dried, or parched by heat

toasted partially defatted cooked cottonseed flour A food additive used to color (brown) food

toaster pastries See Part 2: Grain Products, Composition

tobacco (*Nicotiana tabacum*) The leaves of a semitropical plant used for smoking (pipe, cigar, and cigarette), chewing, and inhalation (snuff)

Types: aromatic; burley; flue-cured

Air-curing (burley)—barn is closed at night and ventilated during the day

Fire-curing—fire built in the floor during the later stages of curing

Flue-curing (bright tobacco)—heat is used in the curing process

A hogshead of burley weighs approximately 950 lb.

See Part 2: Nutrients in Crops; Wastes, Agricultural and Industrial

tobacco aphid See *green peach aphid*

tobacco beds Planting: 1 oz (3 level tbs) seed per 200 yd²; enough for 3-6 acres

Weed control methods:

Methyl bromide—9 lb/100 yd²; use gas-tight cover; keep on for 24-48 h; soil should be dry and temperature above 50°F

Granular calcium cyanamid—1 lb/yd²; 60-90 days before seeding

Fertilizer urea and cyanamid—urea 1 lb/yd², cyanamid $\frac{1}{2}$ lb/yd²; 60-90 days before seeding

Allyl alcohol—6 qt (in 100 gal water)/100 yd²; at least 14 days before seeding; 50°F or above

Burning

Steaming

tobacco (tomato) mosaic A highly infectious disease of tobacco and tomato plants that causes yellow-green mottling on the leaves (occasionally on the fruit of tomato plants); infected leaves are curly and slightly malformed; plants are stunted and fruit yields reduced.

Control: no control except sanitation; do not smoke while working with tomato plants

tobacco mosaic virus Transmitted by direct contact with tomatoes; therefore, wash hands and tools before touching plants.

tobacco stems A fertilizer equivalent; 2-0.6-6.8

See Part 2: Fertilizer Materials

tobo See *straw mushrooms*

Tocai 1) A variety of Italian wine grape. 2) A dry, white, Italian wine

tocol A precursor of vitamin E

tocopherol (vitamin E) An antioxidant (alpha form is better than gamma) found naturally in vegetable

oil; retards the development of rancidity; added at the rate of 0.03% to fat.

1 IU = 1 mg *dl*-alpha-tocopheryl acetate

1.1 IU = 1 mg *dl*-alpha-tocopherol

1.21 IU = 1 mg *d*-alpha-tocopheryl acid succinate

1.36 IU = 1 mg *d*-alpha-tocopheryl acetate

1.49 IU = 1 mg *d*-alpha-tocopherol

See also **alpha-tocopherol**

See Part 2: Antioxidant Activity; Antioxidant Structure; Grain Analysis; Tocopherols; Vitamins; Wheat Products, Composition

tocos Bread made from fermented maize

tod A measure of weight

1 tod = 28 lb

Todd Hewitt broth See Part 2: Microorganism, Media

toddler The age period immediately following infancy

toddy 1) General term for palm wine. 2) Palm sap. 3) The fermented or unfermented sap of a palm tree. 4) An alcoholic drink to which hot water, sugar, and lemon have been added. 5) A fermented drink made from palm sugar (concentrated sap from palm tree); toddy can be distilled to produce arrack. 6) Hot tea containing liquor. 7) An intoxicating drink made from brandy, gin, rum, or whiskey

toddy palm See **palm**

toe-fu-ru Sufu soybean curd

toffee (affy; toffy) A chewy candy made of butter, sugar, and milk; similar to caramels but cooked at higher temperatures See **candy**

See Part 2: Water Activity, Organisms and Food

tofu (bean curd; soybean curd; soy cheese; sufu; teou-fu) A mild-flavored (almost tasteless), cream-colored or white, custard-like fermented soybean product resembling cottage cheese; made by a process resembling cheese making: Soybeans are ground with water to form a puree, which is then cooked under pressure and pressed to remove the soymilk; nigari is added to form the curd, which is then cut and rinsed. Tofu is used as a main dish, in soups, spreads, sauces, dips, and dressings, and also in desserts.

Types:

1 cup fresh tofu, diced = 6 oz

Kori todou or koya dofu—frozen and dried tofu

Aburage—french-fried tofu

Namage—surface-dried tofu

Sufu or to-sufu—tofu on which a special mucor mold is grown

Composition: moisture 85%; protein 8%; fat 4%; carbohydrate 2%; ash 1%

See **soybean curd**

See Part 2: Fungi Food Products; Pulses, Nuts, and Seeds, Composition

tofu, frozen Often made from tofu (bean curd), soy milk, and natural sweeteners (e.g., honey)

tofukasu A food made from beans

togai Under regular grades

togbei A doughnut made from wheat flour

Toggenburg See Part 2: Goats, Milk Breeds

toggenburger (blöder) A white, granular cheese that is made from sour milk and cured 6–9 months

toggenburger-plöderkäse See **blöderkäse**

togue See **lake trout**

toheroa An oysterlike shellfish; min. size 3 in.

tojo Sufu soybean curd

Tokay 1) A variety of white grapes. 2) A golden dessert wine made from Tokay grapes; delicate, rich, strong, pale, sweet wine, made from a blue ferment; an overripe grape; improves with age. 3) A blend of sweet wines

tökay aszu A golden, fragrant, Hungarian dessert wine

tökay edes furmint A semidry, Hungarian wine that matures well

tökay szamorodni A rich, medium-sweet, Hungarian dessert wine

toke Dry bread

tokua Sufu soybean curd

tokusen Special selection or super grade

tolerance 1) In a specification, the permitted margin of error or degree of latitude. 2) The maximum amount of a substance that can be present prior to injurious effects

tolerance level The legal limit for a particular residue in meat and poultry products

tolingo A type of dawadawa

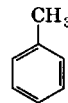
tollenser A tilsit-type cheese

tolmin A Swiss cheese made from sheep's milk

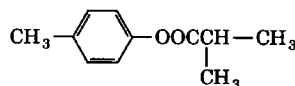
toluava (*Eriscion macdonaldi*) A variety of weak-fish

tolu balsam A plant extract; used as a flavoring in food

toluene A liquid aromatic hydrocarbon of the benzene series:



tolyl isobutyrate



Used as a food flavoring agent; sp. gr. 0.990–0.997
Storage: full, tight, glass, container in a cool, dark place

tom A young male turkey before it becomes "staggy;" usually less than 1 year old See also **turkey**

toma (tuma) A panir-type cheese made from cow's milk and coated with olive oil

Tom and Jerry A heated mixture or egg batter in hot milk or water and liqueur (rum)

tomar A small, smoky cheese

tomatillo Small, green tomatoes with thin, paperlike covering and a slight fruitlike (tart lemon) taste See **gooseberry**

766 tomato

tomato (golden apple; love apple; Peruvian apple; *Lycopersicum esculentum*) Origin Central and South America. 7,000–9,000 seeds/oz; seed 2 oz/acre; 7–10 day germination period; space plants 2–4 ft in rows 4 ft apart; 75–90 days to maturity; yield 4 bushels/100 ft rows. A vegetable whose fruit is used as food; a weak-stemmed, herbaceous plant that produces a fruit (fleshy juicy berry) widely different in size (some up to 1 pound), shape (sub-globose, egg-shaped, pear-shaped, or irregularly globose with bulges and ridges), and color (red, yellow, white, pink, and, in a few cases, purple). The tomato contains sugar, vitamins A and C, and acid, which influences flavor and desirability for canning. It is

eaten fresh, fried (ripe or green), baked, stuffed, and in soups, sauces, and ketchup; also canned (whole, purée, or juice)

Types:

Cherry tomato—small size

Pear tomato—pear-shaped

Tree tomato—egg-shaped fruit on short-lived tree

To peel: dip into boiling water for 15–30 seconds, then into cold water

Preparing: baked, fried, raw, stewed

Freezing point 31.0°F

Canned: usually whole or pieces peeled and packed in their own juice but may have added pulp or semisolid paste

Tomato types	Color	Size	Shape	Days to maturity	Growing region	Use
Early						
Big Early Hybrid	Red	Large, $\frac{1}{2}$ lb	Oblong to globe	62	North	
Bonny Best	Red			65		
Bounty	Red	Small		60		
Break o'Day	Red	Medium	Round	65		
Burpeeana	Scarlet	5 oz	Deep globular	58		
Early Hybrid						
Campbell 28				70		
Campbell 1327	Bright red	Large	Slightly flattened	68		
Chalks Early	Red			65		
Jewel						
Earliana	Red	Large		60	East and north	
Early Girl	Bright red	4–5 oz	Globe to slightly flattened	45–54		
Fireball	Rich red	Medium, $2\frac{1}{2}$ in., 5 oz	Flat globe	60		
Giant						
Globe	Pink	Large		60		
Grothen's Globe	Red	Medium	Round	65		
Jet Star						
John Bear	Red			65		
Penn State	Red	Large		60		
Second Early						
Setmore						
Springset	Red	Medium, average 6 oz	Deep globe	65	General	
Tiny Tim	Red	Miniature	Globe	55		
Valiant	Red	Medium to large	Deep globular	65		
Victor	Red	Small		60		
Maincrop—west and southwest						
Ace	Bright red	Medium to large		80	South	
Atkinson		6 oz		70		
Beef Master	Red	Very large	Flattened	70–90		
Beefsteak (Crimson Cushion)	Red	Large	Flattened	80		
Better Boy	Red	Up to 2 lb	Flattened	70	General	
Big Boy	Red	1 lb., large	Globe	78		
Burpee VF		Medium to large		72		
C17						East, midwest

(Continued)

Tomato types	Color	Size	Shape	Days to maturity	Growing region	Use
Early						
Delicious	Red	1 lb, large	Slightly flattened	77		
Enterpriser						
Fantastic	Red	Large, 6 oz	Globe	70		
Floradel						
Floramerica	Dark red	8-12 oz, big	Globe	73		
Greater Baltimore	Red	Large		Late		Canning
Heinz 1350	Red	Medium to large	Slightly flattened	75		Canning
Homestead 24,500	Dark red	Medium		80	South	
Manalucie	Deep scarlet	Large		85	South	
Manapal						
Marglobe	Red	5 oz, medium	Globe	73, late		
Marion	Dark red	Large	Deep globe	70	South	
Matchless	Red	Large	Flattened			
Moscow VR						
Oxheart	Pink	Large	Deeper than broad	90		
Ponderosa	Pink	Large, 1 lb	Flattened	85		
(Pink Beefsteak)						
Pritchard	Red	4 oz		70		
R1350					East, midwest	
Ramapo	Bright red			80		
Rutgers	Red	5-8 oz	Globular, slightly flattened	73	South	Good juice
Spring Giant	Scarlet	7-8 oz	Round	68	East, midwest	
Stokesdale	Red	Medium		72		
Stone	Red	Large	Slightly flattened	81		
Supermarket					South	
Supersonic					East, midwest	
Tropic		Medium to large		80	South	
Tropi-Gro					South	
VF Hybrid	Red	Medium to large	Slightly flattened	72		
VFW					West	
Walter						
Wonder Boy	Scarlet	Large, 1 lb	Round to flat globe	80		
Yellow						
Golden Boy	Yellow	Big	Globe	80		
Golden Jubilee	Yellow, orange-flesh	2.5 × 3 in.	Deep globe	72	Subacid	
Golden Queen	Yellow	Large, 5 oz		79		
Sunray	Yellow	2.5 × 3 in.		72		
Tangerine	Yellow	Large				
Forcing variety						
Comet		Medium				
Marhio	Pink					
Michigan State	Red	Large				
Ohio-Indiana	Pink	Large	Globe	74		
Ohio Pink Forcing	Pink	Large	Smooth			
Vendor	Bright red	7 oz	Deep globe			
Waltham	Red	Medium				

(Continued)

768 tomato

Tomato types	Color	Size	Shape	Days to maturity	Growing region	Use
Paste						
Campbell						
Heinz		Medium			75	
Napoli						
Roma	Red	Small to medium	Pear	76		
San Marzano	Red	3.5 × 1.5 in.	Rectangular	76		
Dwarf (cherry type)						
Patio	Red	Medium	Globe	70		
Pixie	Scarlet	1.75 in.	Globe	52		
Small Fry	Crimson	1 in.	Cherry-type	52-65	All areas	
Stakeless	Deep red	Large, 8 oz		78		
Tiny Tim	Red	Miniature, $\frac{3}{4}$ in.	Globe	55		
Novelty						
Cherry (cerasiforme)	Red or yellow	Sweet cherry				
Goose Egg	Red or pink	Large plum	Egg			
Pear (<i>L. e. pyriforme</i>)	Red or yellow	Small plum, 1 × 2 in.	Pear, little neck, 2 in. long	70		Salads, pickling, preserving
Plum (San Marzano)	Red or yellow	Small egg, 2 × 1.5 in.	Oblong, 2 in. long	70		Fresh, salads, preserves
Snowball	White			78		
White Beauty	White			84		
Other						
Brazilian (<i>L. humboldtii</i>)—small, rough fruit; good flavor						
Chinese Lantern or Winter Cherry (<i>Physalis Alkekengi</i>)—good flavor						
Current (<i>L. pimpinellifolium</i>)—very small, red						
Husk (Ground Cherry or Strawberry; <i>Physalis pubescens</i> , <i>P. pruinosa</i> , <i>P. lexocarpa</i>)—small yellow fruit enclosed in a membrane (inflated calyx); 70 days; used for pies or jam or fresh						
Potato leaf (<i>L. e. grandifolium</i>)—large fruit						

canned (continued)

Other types include:

Crushed

Diced

Pear- or plum-shaped

Slices

Stewed with onions, peppers, and other ingredients

Tomatoes and hot pepper

Tomatoes and okra

Wedges

Canned defect action level: 10 *Drosophila* (fruit fly) eggs per 500 grams or 5 *Drosophila* fly eggs and 1 larva per 500 grams or 2 larvae per 500 grams

Refuse: 2% skins

Equivalents

100 pounds (lb), fresh = 6-9 lb, dry

0.027 ton, fresh = 1 case (24), No. 2 cans

1 lug box (5.75 × 13.5 × 16.1 inches) = 32 lb

1 bushel, fresh = 50-60 lb

= 14-22 quarts (qt), canned

2½-3½ lb, fresh = 1 qt, canned

1 qt, peeled, coarsely chopped = 2.25 lb

6 large tomatoes = 1 qt

1 lb, fresh = 3 cooked servings

= 2-4 raw servings

= 3.5 medium tomatoes

= 1½ cups, cooked

16 oz, canned = 3-4 servings

1 large, peeled and chopped = 1-1.12 cups

1 medium = 8 ounces (oz)

= 0.5 cup cooked

1 cup, fresh sliced = 6.4 oz

= 2 small tomatoes

1 cup, canned, solid and liquid = 8-8.4 oz

1 small seeded and chopped = 0.5 cup

1 serving = 0.25–0.5 lb
1 cherry tomato, fresh = 0.6 oz

Composition	Dried flakes	Green	Ripe
Moisture (%)	3	93	93
Protein (%)	11	1.2	1.1
Fat (%)	1	0.2	0.2
Carbohydrate (%)	77	5	5
Ash (%)	6	0.5	0.5
pH			4.0–4.9

Vitamins A (1100 IU/100 g) and C (23 mg ascorbic acid/100 g)

Ripen: room temp (55–70°F; relative humidity 85–90%), away from sunlight

Storage (mature green): 55–70°F; moderately dry; will keep 4–6 weeks

Storage (ripe): Uncovered (85–90% relative humidity); refrigerator (32°F); use within 1 week

See Part 2: Ascorbic Acid; Calories, Daily Recommendations; Canned Spoilage Related to pH; Canned Yield; Food, Composition; Fruit and Vegetable, Diseases; Fruit Classification; Fruit Storage; Glutamate; Iron; Minerals, Food; Minerals (Trace), Limits; Mold, Food; Niacin; Nicotinic Acid, Food; Nitrate, Vegetables; Nutrients in Crops; Pectin Content; Phosphorous; pH Values of Biological Materials; Plant Foods, Composition; Planting Density; Portion Size; Potassium; Potassium-Rich Foods; Riboflavin; Riboflavin, Food; Rot Spoilage; Sauce, Tomato; Soups, Composition; Standards, Processed Fruit and Vegetable Products; Storage; Sugar, Vegetables; Thermophiles; Thiamin; Tocopherols; Tomato and Tomato Products, Composition; Tomato Grades; Vegetable Boiling; Vegetable Composition; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Canning Dates; Vegetables, Classification; Vegetable Servings; Vegetable Storage; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields; Vitamin A; Vitamin A, Daily Recommendations; Vitamin A, Food; Vitamin C

tomato-apple chutney A relish made from tomatoes, apples, brown sugar, chopped green peppers, chopped onions, ground ginger, salt, spices, white seedless raisins, and white vinegar

tomato beef with noodle, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	74.9	86.7
Protein (%)	3.5	1.8
Fat (%)	3.4	1.8
Carbohydrate (%)	16.9	8.7
Ash (%)	2.1	1.1

tomato bisque, canned soup

Composition	Condensed	Condensed, prepared with milk	Condensed, prepared with water
Moisture (%)	75.3	81.5	87.2
Protein (%)	1.8	2.5	0.9
Fat (%)	1.9	2.6	1.0
Carbohydrate (%)	18.5	11.7	9.6
Ash (%)	2.5	1.6	1.3

tomato blight A disease of tomatoes in which the leaves have a moist, black blotch and the fruit is occasionally affected See **potato blight**

tomato, canned Whole peeled or cut fruit is canned; Italian style contains basil

tomato, canned soup

Composition	Condensed	Condensed, prepared with milk	Condensed, prepared with water
Moisture (%)	81.2	84.6	90.4
Protein (%)	1.6	2.5	0.8
Fat (%)	1.5	2.4	0.8
Carbohydrate (%)	13.2	9.0	6.8
Fiber (%)	0.4	0.2	0.2
Ash (%)	2.4	1.5	1.2

tomato catsup See **tomato ketchup**

tomato chutney Tomato concentrate, tomato pulp, sugar, water, vinegar, onion, salt, spices (e.g., cardamom, cayenne pepper, celery, cinnamon, coriander) and essential oils (e.g., clove, garlic, etc.)

tomato cocktail Tomato juice with seasonings and flavorings added

tomato fruitworm An insect that damages tomato plants

Control: carbaryl

tomato galls See *Lasioptera vitis*

tomato juice The juice and pulp (skin and seed removed) obtained from fresh ripe tomatoes; usually canned. Only skin, core, and seed removed; often salt added. Cut tomatoes, heat for $\frac{1}{2}$ hour, strain, and season

1 bushel fresh = 50 pounds

= 30 pints, canned

1 cup = 8.6 ounces

Composition (canned): moisture 94%; protein 1%; fat 0.1%; carbohydrate 4%; ash 1%, pH 4.1–4.2

See Part 2: Tomato and Tomato Products, Composition; Vegetable Composition

tomato juice agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

tomato juice cocktail Tomato juice seasoned with spices and hot sauces

tomato juice, concentrated Minimum of 20% natural tomato soluble solids; maximum of 24% natural tomato soluble solids. Dilute with three equal volumes of water to yield regular tomato juice

770 tomato ketchup (catsup)

tomato ketchup (catsup) Tomato concentrate, sugar, water, vinegar, onion, salt, tragacanth gum, and spices (i.e., cardamom, cinnamon, cloves, coriander, and nutmeg)

Defect action level: average microscopic mold count of 30%

tomato paste Concentrating tomato sauce until tomato solid content is about 22%; concentrated tomato paste is about 33% tomato solids *See* **tomato puree**

tomato-pear chutney Relish made from tomatoes, pears, sugar, white seedless raisins, chopped green peppers, chopped onions, white vinegar, chopped pimiento, ground ginger, dry mustard, and cayenne pepper

tomato pomace Composition (dehydrated): dry matter 92%; protein 21.6%; fiber 24%; fat 9.5%; ash 7%

tomato puree (tomato paste) Concentrated canned tomatoes in which most of the water is removed; canned (with or without salt) pulp of tomatoes from which skin, core, and seeds have been removed and cooked until it contains 8% tomato solids

tomato rice, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	77.1	88.1
Protein (%)	1.6	0.8
Fat (%)	2.1	1.1
Carbohydrate (%)	17.1	8.9
Fiber (%)	0.5	0.3
Ash (%)	2.0	1.0

tomato sauce A sauce made from tomatoes

Types: strained, unstrained

Like tomato puree except heavier consistency; solid content is about 16%; often flavored with basil or bay leaves

tomato, solid pack Canned tomatoes with a 65–70% drained weight

tomato soup A soup made from juice and tomatoes pulp, corn and wheat flour, salt, butter, sugar, and spices; usually condensed to $\frac{1}{2}$ original volume; also may be dehydrated

Composition	Dehydrated	Prepared, with water
Moisture (%)	3.9	89.7
Protein (%)	8.6	0.9
Fat (%)	8.3	0.9
Carbohydrate (%)	68.3	7.3
Fiber (%)	1.5	0.2
Ash (%)	10.8	1.2

tomato, tree (*Cyhomandra betacea*) Not a tomato, but a red, egg-shaped (3 in.) fruit that grows on a 7 foot tree

Use: chutney, fresh, jam, stewed

tomato-vegetable soup

Composition	Dehydrated	Prepared with water
Moisture (%)	3.7	93.5
Protein (%)	11.7	0.8
Fat (%)	5.1	0.3
Carbohydrate (%)	59.9	4.0
Fiber (%)	3.1	0.2
Ash (%)	19.5	1.3

tomato, whole packed Canned, whole, peeled tomatoes

tomcod (*Microgadus tomcod*) A small, saltwater, codlike fish

Tom Collins An alcoholic beverage made by stirring 1 tsp sugar in $\frac{3}{4}$ oz ($\frac{1}{2}$ jigger) lemon juice, adding ice, $1\frac{1}{2}$ oz (1 jigger) gin, filling with sparkling (carbonated) water, and stirring

tomme A number of small, cow's milk cheeses; several made in France

tomme d'abondance *See* **abondance**

tomme d'aligot *See* **aligot**

tomme d'annot A valençay-type, cheese made from goat's or sheep's milk and matured for 2 months

tomme de belleville A tomme de savoie-type cheese made from partially skimmed milk

tomme de combovin A valençay-type cheese with a blue-gray rind made from goat's milk

tomme de crest A valençay-type cheese made from goat's milk

tomme de payenne A muenster-type cheese

tomme de Saint Marcelle *See* **Saint Marcellin**

tomme des allues A valençay-type cheese made from goat's milk and cured for 2 months

tomme de savoie A pressed (1–15 kg), uncooked, semihard, French cheese made from whole or skimmed, cow's milk that contains very little water. It has a dry, hard, gray-white to pink-brown, powdery rind sometimes covered with grape seed

tomme des romans A muenster-type cheese made from cow's milk

tomme de valdeblore An esbareich-type cheese

tomtate (grunt; *Bathystoma rimator*) A small, saltwater fish

tomu *See* **ablango**

ton [gross-long; deadweight; 2,240 pounds (lb)]

A measure of weight

1 ton (2,240 lb) = 15,680,000 grains (gr)
 = 1.016 $\times 10^6$ grams (g)
 = 35,840 ounces (oz avdp.)
 = 32,666.7 troy ounces (oz troy; apothecary)
 = 2,722.22 troy pounds (lb troy; apothecary)
 = 2,240 avdp. pounds (lb avdp)
 = 1,016.05 kilograms (kg)
 = 1.12 net-short tons (2,000 lb)
 = 1.01605 metric tons (1,000 kg)

ton (metric, 1,000 kg; t) A measure of weight

- 1 ton (1,000 kg)
 - = 15,432,356 grains (gr)
 - = 1,000,000 grams (g)
 - = 35,274.0 avdp. ounces (oz avdp.)
 - = 32,150.7 troy ounces (oz troy)
 - = 2,679.23 troy pounds (lb troy)
 - = 2,204.62 avdp. pounds (lb avdp.)
 - = 1,000 kilograms (kg; 10^3 kg)
 - = 266.67 kwan (Japan, Republic of Korea)
 - = 66.667 metric arrobas (Brazil)
 - = 26.792 maunds (India, Pakistan)
 - = 22.258 kantars (Egypt, Sudan)
 - = 22.046 cwt (100 lb; Canada, Honduras, United States)
 - = 21.739 Spanish quintals (Chile, Costa Rica, El Salvador, Guatemala, Philippines, Spain, Venezuela)
 - = 21.735 Spanish quintals (Cuba, Peru)
 - = 20 metric kantars (Egypt)
 - = 19.684 cwt (112 lb; United Kingdom and British territories)
 - = 16.667 piculs (pikuls; Cambodia, Lao People's Democratic Republic, Thailand)
 - = 16.534 piculs (pikuls; Brunei, Hong Kong, Macau, Malaysia)
 - = 1.10231 net-short tons (2,000 lb)
 - = 1 cubic meter water at 4°C
 - = 0.98421 gross-long tons (2,240 lb)

ton (net short, 2,000 lb; tn) A measure of weight

- 1 ton (2,000 lb)
 - = 14,000,000 grains (gr)
 - = 9.072×10^5 grams
 - = 32,000 avdp. ounces (oz avdp.)
 - = 29,166.7 troy ounces (oz troy; apothecary)
 - = 2,430.56 troy pounds (lb troy; avdp.)
 - = 2,000 avdp. pounds (lb avdp.)
 - = 907.185 kilograms (kg)
 - = 20 hundredweight (cwt; avdp.)
 - = 0.90719 metric ton (1,000 kg)
 - = 0.89286 gross-long ton (2,240 lb)
- 1 ton = 8 sacks of flour
 - = 10 barrels of flour
 - = 10–36 bushels potatoes
 - = 20 bushels of wheat

tongan (poor man's bean) A broad (1.5×5 in.), subtropical, green bean

tongbaechu-kimchi Acidic, carbonated, Chinese cabbage

tongkimchi Acidic, carbonated, Chinese cabbage

tongue A muscular organ in the mouth; the tongue of some animals is used for food. 1) Classed as offal or variety meat; 5 pounds trimmed tongue per 1000 pound lbs steer

Available: canned, cured, cured and smoked, and fresh
Cured beef tongue: cured weight may be no more than 10% over fresh uncured weight

Preparation:

Fresh—cook in water; skin and remove roots; cook
Smoked or pickled—soak for several hours before cooking

Composition (beef): sodium 17 mg per ounce

2) Extension of a scored section to which the key is attached when opening a key-open can See lunch tongue

See Part 2: Beef Cuts and Uses; Calories, Daily Recommendations; Lamb Cuts and Uses; Meat Composition; Meat, Servings Per Pound; Nicotinic Acid, Food; Pork Cuts and Uses; Riboflavin, Daily Recommendations; Sausage, Types; Storage Times; Variety Meat, Cooking; Variety Meat Percentage of Daily Recommended Allowances; Variety Meat Preparation; Veal Cuts and Uses

tongue, cooked Pork, lamb, or veal tongue; may be cured; sometimes smoked; canned or packaged in plastic. Beef tongue is available whole, jellied, or sliced

tongue, jellied Cooked tongue, shredded and molded with gelatin and cooked in a loaf or roll

tongueworst A moist, cooked, smoked Dutch sausage made from fine or coarsely chopped, medium seasoned beef and pork made with coarsely chopped tongue and stuffed into artificial casings

tonguewurst A moist, cooked, Australian sausage

tonic 1) A medical preparation believed to restore normal tone to tissue. 2) A material designed to stimulate the appetite. 3) A substance used to strengthen a system

tonka See bean, tonka

tonka bean A tree-borne, hard coated, fruit that contains a soft pulpy flesh and a single seed; an essential oil, coumarin, is extracted from the seed and used in butters and as a substitute for vanilla

tonkatsu Fried, pork cutlet

ton (metric)-kilometer

- 1 metric ton kilometer = 0.684945 short ton-mile
- = 0.611558 long ton-mile

ton (long)-mile

- 1 long ton-mile = 1.635169 ton-kilometer

ton (short)-mile

- 1 short ton-mile = 1.459972 ton-kilometer

tonne Metric ton See ton (metric)

tonneau A measure of wine volume;

- 1 tonneau = approx. 200 gallon

tonno Heavily salted, canned, tuna packed in oil

ton of water per 24 hours Measure of a rate of flow

- 1 ton of water per 24 hours
 - = 83.33 pounds per hour
 - = 1.3349 cubic feet per hour
 - = 0.16643 gallons per minute

ton per acre Weight per unit of area

- 1 long ton per acre = 2510.175 kilograms per hour

ton (short) per square foot Weight per unit of area

- 1 ton (short) per square foot
 - = 9765 kilograms per square meter
 - = 13.89 pounds per square inch

ton (short) per square inch Weight per unit of area

- 1 ton (short) per square inch
 - = 1,406,000 kilograms per square meter
 - = 2,000 pounds per square inch

tonqua See bean, tonka

ton, refrigeration The heat required to melt 2,000 pounds of ice at 32°F = 288,000 Btu

772 ton, register (for ships)

ton, register (for ships)

1 register ton = 2.83 cubic meter
= 110 cubic feet

top 1) The extreme high price of the market. 2) Part of the beef round or chuck. 3) Glass jar closure. 4) *See cover*

See Part 2: Beef Round Cuts; Glass Jar Tops; Meat Identification

top chuck The outside area of a beef chuck when it is divided along the blade bone *See also outside chuck*

topdressing Fertilizer applied after the crop is established

tope (Atlantic, *Galeorhinus galeus*; Oceania, *Notogaleus rhinophanes*) A food fish

topepo A tomato-red, pepper hybrid used in salads

topfen A panir-type cheese made from cow's milk
See Part 2: Milk and Cheese Composition

top loin A club steak or strip steak; same large muscle as the porterhouse or T-bone, but has no tenderloin muscle

toppen 1) A dry, uncooked, smoked Norwegian sausage (pepperoni) made from medium chopped, heavily seasoned, beef, pork, and horse with plucks added and fermented and stuffed into artificial casings. 2) A sour, skimmed milk cheese

topping A material applied or sprinkled or garnished or poured over food
See Part 2: Stabilizers, Thickeners

top round The inside (upper or medial) muscle of the round; a more tender cut than the eye or bottom round muscles. Semimembranosus and adductor muscles *See also inside round*
See Part 2: Beef, Boneless Cuts

top seal Horizontal top-sealing surface on a glass container

top seam Top, or packer's end, seam of a can

top sirloin (sirloin tip) Ventral muscles of the sirloin; includes *tensor fasciae latae*, *vastus medialis*, *rectus femoris*, and *vastus lateralis*

top soil Top layer or surface of soil that contains organic matter (humus)

top syrup Syrup obtained by concentrating the entire juice of sugar cane. Because no sugar is removed, it is sweeter than molasses; caramelized flavor; reddish color

tor *See torr*

torani A rice beer, also used as a starter for kanji

torbato A full, white, Sardinian wine made from a Sardinian grape

torfu A food prepared from soybeans

torgiano An Italian wine

Types:

Red—full and pleasant scent; needs to be aged
White—very dry; can be aged

tori Chicken

tori seed oil Oil extracted from mustard seed

tornado A pineapple (*Ananas sativus*) liqueur

torpedo (electric ray) A food fish

torr (tor) International pressure unit approximating one millimeter of mercury

1 torr = 1/760 standard atmosphere
= 1,013,250/760 dyne per square
centimeter
= 1333.22 microbars

torre giulia A dry, full-bodied, white, table wine

torre quarto A red wine produced in southeastern Italy

torshi Pickled fruit or vegetables

torshi arnabeet wo koromy Pickled red cabbage and cauliflower

torshi basal Pickled onions

torshi betingen Pickled aubergine

torshi felfel Pickled sweet pepper

torshi khiar Pickled cucumber

torshi left Pickled turnip

torusk A food fish *See tusk*

torte A round cake made with eggs, sugar, and usually nuts; sometimes covered with frosting

tortilla A hot, soft textured, corn bread. 1) A round, corn or flour, flat bread. 2) Mexican version—a circular flat bread or cake made from corn meal or flour; called tacos, they are filled with meat, chili, and beans; called enchiladas, they are fried and covered with sauce. 3) Spanish version: A potato-egg omelet
See taco

tortilla chips

1 ounce per serving

tortilla flour *See flour, masa*

tortoni or biscuit tortoni A frozen dessert containing whipped egg white, whipped cream, sugar, milk, macaroon crumbs, vanilla, and almond liqueur

toscana A dry, uncooked, Australian sausage

toss To gently mix by turning ingredients over and over, e.g., salad

tostada Flat, fried tortilla topped with beans, meat, cheese, and vegetables

tosufu Sufu soybean curd *See tofu*

Total A trade name ready-to-eat cereal; 8.3% sugar

total count The total number of microorganisms per gram or square centimeter

total digestible nutrients (TDN) Sum of protein, fiber, nitrogen-free extract (NFE), and fat ($2\frac{1}{4}$); represents approximate heat or energy value.

energy value = digestible crude protein

+ digestible NFE (which includes primarily
the soluble carbohydrates)

+ digestible crude fiber

+ (digestible fat \times 2.25)

total nitrogen *See Kjeldahl determination*

total pack Prepackaged, premeasured, unitized, seasoning blends for one batch of product

total plate count The real number of bacterial colonies grown on nutrient agar that are visible

total residual chlorine Free residual plus combined residual chlorine determined by the 5 minute orthotolidine test

totkal kimchi Acidic, carbonated vegetables

totuava See Part 2: Vitamin A, Fish

touareg A rennet, skimmed milk, cheese

touch 'n go end An aluminum lift-tab end attached by an integral rivet

tou-fu-ju Sufu soybean curd

tou-fu-ru Sufu soybean curd

tough Flexible without brittleness; tenacious; opposite of tender

toughness Resistance to breaking; lack of tenderness

touloumisio A white, brined cheese made from cow's milk

touloumotyri A variety of feta cheese

toulouse See **goose**

toupin A muenster-type cheese made from cow's milk and matured for up to 8 months

touraine A sparkling wine

touristenwurst A dry to semidry (MPR of 3.7:1 or less), uncooked, smoked, Swiss sausage made from medium chopped, heavily seasoned beef and pork and stuffed into beef, pork, or artificial casings

tournedos Small (4 oz, 1.5 in. thick), lean, round cuts of fillet or steaks from the tip of the tenderloin

tournon Saint Pierre A valençay-type cheese made from goat's milk

tourshi Pickled food

tou-shih A strong, black, firm (low moisture), soybean paste used as flavoring

tox- A prefix meaning poison

toxaphene A poisonous insecticide; approx. formula $C_{10}H_{10}Cl_8$

toxemia Poisoning due to absorption of bacterial toxins; a condition or illness caused by the absorption of toxin from a local infection or that has been ingested; poison in the blood caused by poisons or microorganisms

toxic Poisonous

toxicity A property of causing any type of harmful effect on life

toxicology The science of poisons and their antidotes

toxigenicity The ability of a microorganism to produce toxic substances

toxin A poisonous albumin produced by certain microorganisms; a poison produced by plants See Part 2: Microbial Toxins; Plant and Animal Poisoning

toxoid A toxin that has been rendered harmless but which retains antigenicity

toyo A soy sauce

TPEY See Part 2: Microorganism, Media

TPN See **triphosphopyridine nucleotide**

trace A small and barely detectable quantity; less than 5×10^{-6} grams per gram

TQC Total quality control

trace element An element or its salts needed by the body in very small amounts; an element required in minute amounts for an organism physiology See also **mineral**; **trace**

See Part 2: Minerals (Trace), Limits

trace mineral A mineral required in only minute amounts (milligrams per pound or less)

trachea Windpipe (air passage to lungs); tube from larynx to bronchi or lungs

trade discount A discount to buyers of a certain trade or other classification

trademark A work or distinguishing mark that identifies a proprietary product; if registered, it is protected by law

trading activity The pace at which sales are being made compared with normal for a given market

Active—sales are being made at a more rapid pace than usual

Moderately active—sales are being made at a normal pace

Slow—sales are being made at a slower than normal pace

traffic A department or division responsible for obtaining the most economic commodity classification and method of transporting materials and products

tragacanth (gum dragon) See **gum tragacanth**

trahana See **kapestoes**

trail The intestines of some birds and fish used as food

training table Meals planned to aid athletes in their conditioning program

train oil (tran oil) Oil obtained by allowing aquatic animals to decompose. 1) Oil produced from sea animals (e.g., whale). 2) Unclean fish fat. 3) Fish oil

trakya A white or red wine

traminac A white wine

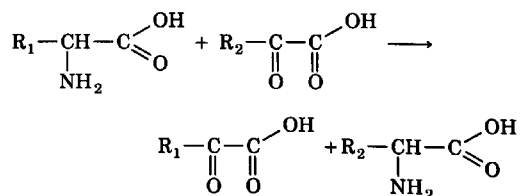
trans- A prefix meaning through or across

trans See **cis-trans isomers**

transaminase The enzyme responsible for transamination

transamination Transfer of an amino group ($-NH_2$) from one compound to another, catalyzed by the enzyme transaminase.

Example:



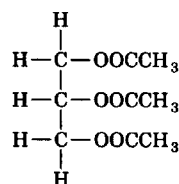
774 transduction

- transduction** Transfer of genetic fragments from one cell to another by a virus
- transferase** An enzyme that catalyzes group transfers, e.g., kinase, transaminase
- transfer head** A continuous horizontal ridge of glass near the bottom of the finish used as an aid in the transfer of the container during manufacturing
- transferrin** An iron-binding glycoprotein
- transfer valve** Valve containers move through when transferred from one pressure shell to another in a continuous agitating retort
- transformer** An electrical device used to change the voltage of ac power; it contains two coils; when current is applied to the primary coil it generates a magnetic field that produces a current in the secondary coil
- transfusion** 1) Intravenous feeding. 2) Introduction of blood
- transgrow medium** See Part 2: Microorganism, Media
- transit** Movement of goods from one location to another
See Part 2: Transit Temperature
- transitional compensatory amount** An EEC marketing term used between old and new EEC members; this is a charge on exports into EEC countries with higher market prices and payment on intercommunity exports to countries with lower prices
- transit time** A standard arbitrary allowance given on any order for the physical movement of items from one operation to the next
- translocation** Movement of material from one location to another
- transparent** Permitting the passage of light See also **Yellow Transparent**
- transplant** To remove a seedling from the ground and plant it in another place
- transplantable tumor** Malignant cell that can be transferred from one animal to another
- transverse plane** Crosswise; right angles to long axis; divide ribbed carcass into fore and hind quarters
- transverse process** Lateral projection on vertebra
- trapezius muscle** A muscle that is attached to the lateral surface of the scapula and to the thoracic spinous processes
- trappist** A soft, pale yellow, cheese See **oka**
See Part 2: Cheese, Vitamin Content; Vitamin A, Milk and Milk Products
- trappiste** A tilsit-type cheese
- Trappist monks** Do not eat meat because they consider it a luxury and in conflict with the quest for a simple life
- trash fish (industrial fish)** Mixed species of fish, unwanted for human consumption
- trasi** A fermented paste of prawns or shrimp
- trassi** A dark, salty, fermented fish or shrimp paste
- trassi ikan** A fermented, salty, fish paste condiment
- trassi udang** A dark, salty, fermented, shrimp with rice or rice bran
- trauma** A wound or injury
- travancore** A black tea from South India
- traveling purchase requisition** A purchase order designed for repetitive use; after a purchase order has been prepared for the goods requisitioned, the form is returned to the originator who holds it until a repurchase of the goods is required
- travnicki** A soft cheese made from whole, sheep's milk with rennet added
- travnik** A small esbareich-type cheese made from sheep's and cow's milk
- trawl** A long line with hooks or net used in deep-sea fishing
- trayberring** Removal of forbidden fat, veins, and arteries; removing and opening the large blood vessels and removing the sciatic nerve from kosher meat
- trayf** Not kosher
- treacle** British term for molasses. An almost black, sharp-flavored, syrup used as a sweetener
- Trebbiano d'Abruzzo** A sharp, white, wine made from grapes grown in east central Italy
- Trebbiano di Romagna** A dry, well-balanced, Italian, white wine produced from trebbiano grapes
- trebeche** See **sableau**
- trebern** Apple brandy
- trebolgiano** A hard, large wheel, black-rind cheese made from cow's milk
- treccia** A plaited, mozzarella-type cheese made from cow's milk
- tree cricket**
Host: apple, blackberry, cherry, loganberry, peach, plum, raspberry, and others
Damage: holes in canes
Control: destroy canes; insecticide
- treehopper** A wedge-shaped insect that has sharp corners; the adults are as long as $\frac{3}{8}$ inch; eggs cause roughened bark and stunt growth of branches
Control: fruit-tree oil spray
- tree molasses** See **maple syrup**
- tree nuts** See Part 2: Pulses, Nuts and Seeds Composition
- tree of life** See **palm**
- tree strawberry** See **arbuay**
- tree sugar** See **maple sugar**
- tree tomato** See **tomato**
- t'refah (trepha)** Opposite of kosher; food considered objectionable by Jewish tradition
- trefoil (big trefoil)** A shallow-rooted perennial grass used in wet soil; seeding 60 pounds per bushel; 2-3 pounds per acre; variety: Columbia See also **Viking**
See Part 2: Seed, Germination
- trenais** A cognac liqueur flavored with yogurt
- trenette** See **spaghetti**
- trepha** See **t'refah**
- tresse** A plaited, white, wheat bread

trester Brandy distilled from fermented grapes

treyf See *t'refah*

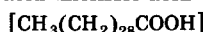
triacetin



Used as a food solvent and humectant; sp. gr. 1.155-1.158

Storage: tight, glass container

triacontanoic acid (melissic acid)



A saturated fatty acid found in some plant waxes
See Part 2: Saturated Fatty Acids

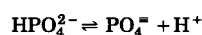
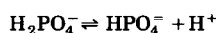
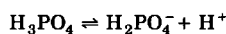
triangle 1) A three-sided figure. 2) A panel receives two samples that are the same and one that is different and are asked to identify the odd sample See also **rattle**

See Part 2: Taste Panel, Difference Tests; Triangular Taste Test + Preference; Triangular Taste Test Probability

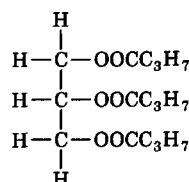
triangle test Three coded samples of which two are the same and one is different; the judge is asked to select the different sample. See **triangle**

tribasic acid An acid with three replaceable hydrogens

Examples:



tributyryn



Used as a bitter flavoring agent in food; sp. gr. 1.034-1.038 at 20°C

Storage: tight container

tricalcium phosphate $[\text{Ca}_3(\text{PO}_4)_2]$ A white powder used as an anticaking agent, clarifying agent, mineral supplement, and bleaching agent

tricarboxylic acid cycle See **citric acid; Krebs cycle**

triceps Three-headed; small muscle that extends the fore limb See also **triceps brachii**

triceps brachii A large muscle of the chuck filling the angle between the scapula and the humerus; it is attached to the head of the ulna

-trich- An affix that means hair

trichina *Trichinella*; a parasite found in pork and other animal tissue See also *Trichinella spiralis*;
trichina destruction

trichina destruction A technique recommended for destroying trichina

Heating; 137°F

Refrigerating:

Max. temp (°F)	Meat samples (separated & not over 6 in. thick (days)	Meat samples (6-27 in. thick & separated) (days)
5	20	30
-10	10	20
-20	6	12

Trachina- destruction, curing method	Max diam. meat (in.)	Min salt/100 lb fresh (lb)	Holding time			Drying room		Smoking		Min. total days in cure	
			Min. time (days)	Min. temp (°F)	Max. diam. (in.)	Min. days	Min. temp. (°F)	Min. time (hr)	Min. temp. (°F)	Time days	Min. temp. (°F)
1	$\frac{3}{4}$	$3\frac{1}{3}$			$3\frac{1}{2}$	20	45			25	
					$1\frac{1}{8}$	15	45			20	
					$3\frac{1}{2}$ -4	35	45			40	
2	$\frac{3}{4}$	$3\frac{1}{3}$			$3\frac{1}{2}$	10	45	40	80	18	
					$3\frac{1}{2}$ -4	25	45	40	80	33	
3	$\frac{3}{4}$	$3\frac{1}{3}$	$1\frac{1}{2}$	34	$3\frac{1}{2}$			12	90	144	34
										hr	
								4 cont.	128		
								15	90		
4	$\frac{1}{4}$	$2\frac{1}{2}$	6 in. in depth	36	$3\frac{1}{2}$			7 cont.	128		
								4 hr to obtain	128		
								3 hr	85	35	45
5	$\frac{3}{4}$	$3\frac{1}{3}$	10	36	$3\frac{1}{2}$			water bath or	80	35	45
								smoke			
						65	45	Coat with paraffin			

(Continued)

Trachina-destruction, curing method	Max diam. meat (in.)	Min salt/100 lb fresh (lb)	Holding time		Max. diam. (in.)	Drying room		Smoking		Min. total days in cure	
			Min. time (days)	Min. temp (°F)		Min. days	Min. temp. (°F)	Min. time (hr)	Min. temp. (°F)	Time days	Min. temp. (°F)
Capocollo (Boneless Boston Butts)	—	4½	25	36	Washed	20	45	30	80		
Coppa (Boneless Boston Butts)	—	4½	18	36		35	45				
Hams											
1	—	4 + over-haul	40	36	Washed			10 days	95		
2	—	4 + 8 oz 100° pickle + over-haul	3 per lb green wt	36	Washed	20	45	48	80		
Boneless loins											
1	—	5	25	36	Washed			12 4 cont.	100 125	12	45
2	—	80° pickle, 60 lb pickle/100 lb	25	36							
3	—	#1 + #2	25	36							

trichinella See trichina

Trichinella spiralis A parasite (roundworm) found in the skeletal muscle fibers of bear, cat, dog, swine, the rodent family, walrus, and man; heating to 137°F will kill this parasite

trichinoscope An instrument used to inspect meat for trichina

trichinosis An infection caused by the parasite *Trichinella spiralis*. Human infestation may cause severe pain, prolonged illness, and even death
See Part 2: Diseases, Food-Borne; Illness from Food; Infectious Diseases, Food-Borne; Trichinosis

trichloroacetic acid (CCl₃COOH) An organic acid used to precipitate protein

trichlorocyanuric acid See Part 2: Chlorine Compounds

trichloroethylene (CHCl=CCl₂) A toxic solvent and refrigerant. Used as a food extraction solvent; sp. gr. 1.455–1.458

Storage: tight container
See Part 2: Refrigerant

trichloroisocyanuric acid (C₃N₃Cl₃O₃) An organic acid used as a cleaner and sanitizer
See Part 2: Chlorine Availability; Sanitizer

trichloromonofluoromethane (CCl₃F) A chlorofluorocarbon refrigerant
See Part 2: Refrigerant

trichlorotrifluoroethane (CCl₂FCClF₂) A chlorofluorocarbon refrigerant
See Part 2: Refrigerant

tricho- Resembling a hair (of bacteria)

Trichoderma See Part 2: Molds, Mycotoxins

trichoderma rot A citrus fruit rot caused by *Trichoderma viride*, which enters the fruit through injuries usually at the stem end and can also spread by contact; the fruit becomes brown with a pliable texture; retarded by refrigeration

Trichomonas A type of bacteria
See Part 2: Microorganism, Media

trichomoniasis A protozoan infection that causes irregular estrous cycles or abortion

trichophyton agar See Part 2: Microorganism, Media

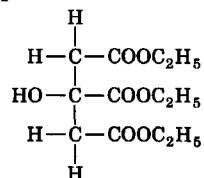
trichothecene A group (currently 40 identified) of closely related sesquiterpinoid mycotoxins; produced by a number of genera but particularly important are *Fusarium* spp. and *Stachybotrys atra*

tricuspid valve A heart valve that allows one-way flow of blood from the right auricle to the right ventricle

trier A long flat stainless steel instrument used to inspect the internal area of meat for off-odors

triethylamine [N(C₂H₅)₃] A wetting agent that has an odor of decaying fish

triethyl citrate



Used as a food sequestrant
Storage: tight container

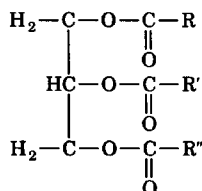
trifesti A white, dessert wine

trifle A dessert or sweet pudding usually containing fruit over cookies or cake and often alcoholic (e.g., sherry) ingredients, egg custards, and whipped cream

triggerfish (pigfish; *Balistes capriscus*) A saltwater fish

trigger price The point at which the market price reaches or exceeds the release price

triglyceride Glycerol esterified with three molecules of an acid



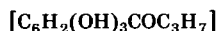
Chief chemical constituent of fats and oils

See also **fatty acid**

See Part 2: Lard, Triglyceride Mole Percent Composition; Oil, Triglyceride Mole Percent Composition; Rapeseed Oil, Triglyceride Mole Percent Composition; Tallow, Beef, Triglyceride Mole Percent Composition

trihydric An alcohol containing three hydroxyl groups, e.g., glycerol

2,4,5-trihydroxy butyphenone



A food additive with antioxidant properties

See Part 2: Antioxidant Structure

Trikala loucanica A moist, uncooked, sometimes smoked Greek sausage made from coarsely chopped, heavily seasoned (garlic, herbs, leek, pepper) beef and pork and stuffed into sheep casings

trillion American and French 10^{12} , English and German 10^{18}

trim To cut or remove unwanted material

trimmable fat Fat that can be removed by thorough practicable trimming and sorting; not the same as chemically analyzed fat

trimmed lamb A lamb whose tail has been cut; also, an unsexed male lamb

trimmings Pieces of edible lean meat removed from the major cuts in the trimming process and used for sausage meat

Trinidad rum A light and dry rum

trinitrobenzene An indicator that is colorless below a pH of 12, orange from 12 to 13, and red-orange above 13

triose ($\text{C}_3\text{H}_6\text{O}_3$) A three-carbon sugar

tripe Cleaned, scalded, and cooked first (smooth) and second (honeycombed) stomach (with the inside wall removed) from healthy cattle

Kinds (depends on part of stomach used): blanket; book; honeycomb (from reticulum); monk's hood; reed.

1.5 pounds of honeycomb tripe per 1000-pound steer

6.5 pounds of plain tripe per 1000-pound steer

It is precooked but requires further cooking in water until tender; often canned in milk or brine

Composition: moisture 79%; protein 19%; fat 2%; ash 0.5%; sodium 13 mg per ounce (28 grams)

See Part 2: Beef Cuts and Uses; Variety Meat, Cooking; Variety Meat Percentage of Daily Recommended Allowances, Variety Meat Preparation

tripeptide A compound made up of three amino acids joined by two peptide bonds

triphosphopyridine nucleotide (TPN) A coenzyme that differs from coenzyme 1 (DPN) only in having one more phosphoric radical in the molecule; used by the cell in many oxidation reactions

triple bond An unsaturated carbon linkage characteristic of acetylene and its derivatives, e.g., $\text{HC}\equiv\text{CH}$

triple crème A soft-textured, creamy-flavored cheese; a soft, ripened, delicate flavored cheese with a white or golden powdery crust; may run at room temperature; often flavored with chives, fennel, garlic, rosemary, etc. Minimum of 75% fat

triple sec Refined curacao See **curacao**

triple-sugar iron agar See Part 2: Intestinal Microorganisms in Triple-Sugar Agar

triple superphosphate A fertilizer ingredient made by addition of phosphoric acid to phosphate rock; contains 50% available phosphate (P_2O_5)

See Part 2: Fertilizer

tripletail (*Lobotes surinamensis*) A large, saltwater fish

Tripolis loucanica A moist, uncooked, sometimes smoked Greek sausage made from coarsely chopped, heavily seasoned beef and pork and stuffed into sheep casings

tripolyphosphate A cleaning compound (sodium tripolyphosphate) that has good calcium sequestering power; it is readily soluble in warm water but unstable at high temperature or in solutions high in alkali

See also **phosphate**

See Part 2: Phosphate

trisodium orthophosphate See **trisodium phosphate**

trisodium phosphate (sodium phosphate, tribasic; trisodium orthophosphate; TSP) ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$) An alkaline cleaner that has good solubility, deflocculating and emulsifying properties; it is a fair water softener and quite corrosive. A food emulsifier used in some cheeses

See Part 2: Detergent Properties

tri sugar agar See Part 2: Microorganism, Media

triticale (*Triticale heraploide*) A hybrid cereal obtained from wheat and rye

Composition: dry matter 90%; protein 15.8%; fiber 4%; fat 1.5%; ash 1.8%

Like rye, it can also contain ergot

triticale flour Made by grinding triticale kernels; low in gluten; usually mixed with all-purpose flour to make bread

trittenheim A light, white wine

Triumph 1) A variety of potato (white) that is best used in salads. 2) A dry, mealy variety of sweet potato

Trockenbeerenauslese A rare wine made from individual grapes shriveled almost to raisins; made from over-ripe, half-dried grapes affected by the edelfaule or "noble rot"

trois cornes See **sableau**

trojniack A sweet, Money-fermented, alcoholic beverage, often flavored with fruit juice and spices

trondemorr A pepperoni made from beef, lamb, pork, and sometimes horsemeat

trondermorr A dry, uncooked, smoked Norwegian sausage made from medium chopped, heavily seasoned, beef, lamb, pork, and horsemeat and fermented and stuffed in beef casings

tropaeolum See Part 2: Essential Oils

-troph A suffix meaning nourishment

tropical fruit A fruit grown in the tropics, e.g., avocado, banana, date, fig, guava, mango, papaya, pineapple, pomegranate

tropical fruit salad A canned fruit mixture. Most common mixture includes mango, melon, papaya, passion fruit, pieces of banana, and pineapple; packed in sweetened juice from passion fruit or other tropical fruit. Some mixtures contain mandarin orange sections, maraschino cherries, and grapes

tropical fruit salad plant See **monstera deliciosa**

tropics The area between 23°27' north and south of the equator

tropocollagen See Part 2: Connective Tissue Proteins

tropomyosin A long thin protein found in the actin filament of muscle

See Part 2: Myofibrillar Proteins of Muscle

troponin A muscle protein found in the actin filament at every seventh G-actin molecule

See Part 2: Myofibrillar Proteins of Muscle

trotter A lamb (calves and pigs also) shank. Can also apply to pig feet

trout (*Salmonidae*) A freshwater or saltwater fish related to the salmon

Types:

- Brook trout—small; white flesh
- Brown trout—large; freshwater
- Lake trout—small to medium
- Rainbow trout—often smoked
- Sea trout (weakfish)—large; resembles salmon

Names:

- Australia (*Galaxiids*)
- Brook, Speckled (*Salvelinus fontinalis*)—North America
- Brown (true) [*Salmo trutta* (fario)]
- Char (*Salvelinus fontinalis*)
- Cutthroat (*Salmo clarki*)—Pacific; freshwater; North America
- Gila (*Salmo gilae*)—freshwater; North America
- Golden (*Salmo aguabonita*)—freshwater; North America
- Japanese Marine—See **cherry salmon**
- Lake [*Salvelinus namaycush* (Cristivomer)]—North America
- Rainbow, Steelhead (*Salmo gairdnerii*, *Salmo irideus*)—Atlantic; Pacific; freshwater
- Sea, Brown (*Salmo trutta*)—Atlantic; freshwater; North America; Europe
- Sea (*Cynoscion regalis*)—North America
- Spotted Sea (*Eriscion nebulosus*)—North America
- Steelhead (*Salmo gairdneri*)

	Common name	Other names	Fat (%)
Saltwater	Gray	Weakfish	3.8
	Spotted	Speckled	3.8
	White	Sand	3.8
Freshwater	Brook		
	Brown		
	Lake	Togue	11.1
	Rainbow		

1 whole dressed = 1.5–2 pounds

Pan dressed = 6–8 ounces

Composition: protein 21.5%; fat 11.4%

See Part 2: Fish, Storage; Frozen Food, Storage; Minerals, Food; Salmon and Trout

trout fillet

1 fillet = 5–6 ounces

trouville A soft, fresh, cheese made from whole milk with rennet added

troy U.S. and English weight used for gold and silver; based on a pound that contains 12 ounces

Troyarska loukanka A beef and pork pepperoni, sometimes not smoked

troyen cendre A rocroi-type cheese matured in wood ashes

troyes Cheese

Types:

- Barbery—similar to camembert
- Ervy—washed with yellow rind

truck farm Land used for raising garden produce

truckles Cheese

Type:

- Blue cheese
- Full cream cheddar

truck space, cattle

Weight (pounds)	Number of cattle per running foot	Number of long-horn cattle per running foot
600	0.9	0.85
800	0.7	0.65
1000	0.6	0.57
1200	0.5	0.47
1400	0.4	0.38

true stomach See **abomasum**

truffle An underground (1–2 feet) edible tuber of an edible fungus; *Tuber melanosporum* wild mushroom.

Type:

- Black or perigord (*Tuber melanosporum*)
- Dark brown (*T. aestivum*)
- English (*T. aestivum*)
- French (*T. melanosporum*)
- Italian (*T. magnatum*)
- White (*T. album* or *T. niveum*)

It lives in mutually beneficial symbiosis with the root system of its host tree (30 types of trees; oak is best known; also hazelnut, linden)

Size: walnut to lemon; 1–4 inches in diameter

Shape: round; warty, with no roots or stalks

Surface: rough; wasty

Flavor: aromatic and piquant

Yield losses: 10% cleaning, 10% peeling, and 10% cooking

Composition: moisture 75%; protein 9%; fat 0.3%

trunk 1) The body from light veal carcasses less the legs (chump on or chump off); in some cases less the tenderloin, backstrap, and shin. 2) The main perennial part of plants

truog A ricotta-type cheese made from cow's milk; usually consumed fresh

truss To tie a roast or fowl to hold shape during cooking

truttine A protein found in the trout family

tryayos A brandy

trypsin A proteolytic enzyme that hydrolyzes native proteins to amino acids; it is found in the pancreatic juice in the small intestine; it is secreted in the inactive form called trypsinogen. Used to peptonize milk

See Part 2: pH Values of Biological Materials

trypsin digest agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

trypsinogen The inactive form of trypsin in which trypsin is secreted; it is initially activated by enterokinase after which time activation proceeds through the action of trypsin See also **trypsin**

tryptic digest agar See Part 2: Microorganism, Media

tryptic soy agar A medium used to grow *Staphylococcus aureus*

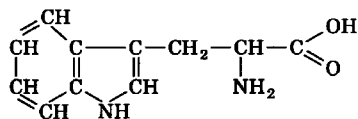
See Part 2: Microbiological Media; Microorganism, Media

tryptic tellurite agar base See Part 2: Microorganism, Media

tryptone See Part 2: Microorganism, Media

tryptone glucose extract agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Media

tryptophan (tryptophane)



A heterocyclic essential amino acid obtained by hydrolysis of proteins or made synthetically. Used as a food nutrient or dietary supplement

Storage: tight container in the dark

See Part 2: Amino Acids; Amino Acids, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

tryptose agar See Part 2: Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media

tryptose blood agar base See Part 2: Microorganism, Media

tsambie Bread made with highland barley

t'sao See **jujube**

tsa tzai Pickled, hot cabbage

tschil (leaf; telpanier; zwirn) A cheese made from skimmed cow's or sheep's milk See **leaf cheese**

TSH Abbreviation for thyroid-stimulating hormone

TSI See Part 2: Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

tsimlyanskoye A sweet, sparkling, red wine

tsinandali A dry, white wine

tsingtao A white or red wine

tsintsinbirra A type of ginger beer

TSN agar See Part 2: Microbiological Media

tsogo A type of dawadawa

Tsoshan A black, lop-eared, pig found in eastern and northeastern China

TSP See **trisodium phosphate**

tsu A pickled vegetable

TSU agar See Part 2: Microorganism, Media

tsue-fan Sufu soybean curd, aged in wine

tsui-fang Sufu soybean curd, aged in wine

tsukadani Soy sauce

tsukemono Meat, fish, or vegetables pickled in boiled rice, rice bran, sake, or vinegar

tsukundani Fish pickled in soy sauce

T.T. Tuberculin-tested

t-table To get a one tail value from a two tail table, multiply α (prob.) by 2 and look this ($\alpha \times 2$) up in a two tail table; To get a two tail value from a one tail table, divide α by 2 and look this up in a one tail table

TT broth See Part 2: Microorganism, Media

tuack (tuwak) A sweet, cloudy, white wine made from palm (*Arenga saccharifera*) sap

tuba A sweet, cloudy, white or colored red wine made from coconut and palm sap

tube cell See Part 2: Corn Kernel; Wheat Kernel Parts

tuber The short, thickened, fleshy stems or terminal portions of stems or rhizomes usually formed underground; a short, fleshy, underground plant part that is not a bulb, corm, rootstock, or root. A tuber contains food storage (usually starch) and it can produce another plant and sustain it until well developed, e.g., potato

See Part 2: Sweet Potato and Irish Potato; Vegetable Composition; Vegetables, Classification

tuber (os) calcis (point of hock) A bone in the rear leg pointing backward and upward to which the achilles tendon is attached

tubercle A wartlike growth on the root of a leguminous plant

tuberculosis A communicable disease of cattle, hogs, and chickens; it can be detected by the tuberculin test. A food borne bacterial disease in humans; the causative organism is *Mycobacterium tuberculosis* and varieties *M. bovis* and *M. avium*; organisms destroyed by pasteurization

See Part 2: Illness from Food; Infectious Diseases, Food-Borne; Microorganism, Media

780 tuberose oil

tuberose oil An essential oil used as a flavoring agent
See Part 2: Essential Oils

tubetti See **macaroni**

tuchowska A moist, smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into pork casings

tuck To eat heartily, especially of sweets (British)

tucket A steak; a small green ear of corn

tudela A golden, hard, pressed cheese made from sheep's milk

tuica Plum brandy

tuie A maize-based aliha

Tukey test See **means test**

tuk-trey Fish sauce

tularemia An infectious disease of wild rabbits that is communicable to man

See Part 2: Diseases, Food-Borne; Illness from Food; Infectious Diseases, Food-Borne

tullibee See **lake herring**

tulum A semihard, roquefort-type cheese made from ewe's milk

tulum peyniri A strong-flavored, acid curd cheese made from goat's or sheep's milk and mixed with olive oil or yogurt and matured in a goatskin bag

tuma See **muenster cheese**; **toma**

tumble mustard (*Sisymbrium altissimum* L.) An annual weed

tumbler A container used in drinking liquids
1 tumbler = 8 ounces

tumeric See **turmeric**

tumorigenesis Multiplication of cells by uncontrolled and progressive production of new tissue growth

tun A wine measure; an old measure of volume

1 tun = 953.9 liters

= 252 wine gallon (U.S.)

= 210 gallons (Imperial)

= 2 pipe

tuna (tunny; *Gymosarda unicolor*) A fat, large fish caught in warm water. Red sea, mackerel-like fish

Canned style: skin and bones removed; flesh salted; natural oil removed and cottonseed oil added

Type:

Chunk style—bite size pieces

Fancy pack—solid chunks

Flakes, grated, shredded—shreds or small pieces

In oil—solid and liquid

Tuna type	Other names	Scientific name	Label	Meat color	Where caught	Composition (%)			
						Moisture	Protein	Fat	Ash
Albacore	Longfin, White, Pacific	<i>Thunnus alalunga</i> , <i>Germo Alalunga</i>	White meat tuna	White	Cosmopolitan, Pacific coast	66	25	8	1.3
Bigeye	Patudo, False Albacore	<i>Thunnus obesus</i> , <i>Parathunnus obesus</i>			Cosmopolitan				
Bluefin	Tunny, Atlantic, Southern Bluefin, California, Horse Mackerel	<i>Thunnus thynnus</i>	Light meat tuna	White to pinkish	Cosmopolitan, Atlantic and Pacific coasts	70	25	4	1.3
Little	Mackerel, False Albacore, Bonito	<i>Euthynnus alletteratus</i>			Atlantic, Mediterranean				
Longtailed	Black Skipjack	<i>Euthynnus affinis</i>			Indian, Pacific				
	Northern Bluefin	<i>Thunnus tonggol</i> , <i>Kishinoella tonggol</i>			Indian				
	Pacific	<i>Thunnus rzacalles</i> , <i>Kishinoella zacalles</i>			Pacific				
Skipjack	Striped, Bonito	<i>Euthynnus pelamis</i> , <i>Katsuwonus pelamis</i>	Light meat pack	Dark meat, pinkish tan	Cosmopolitan, South Atlantic				
Southern Bluefin		<i>Thunnus maccoyii</i>			Australia				
Yellowfin	Autumn Albacore, Allison's	<i>Thunnus zacalles</i> , <i>Thunnus albacares</i>	Light meat tuna	White to pinkish	Pacific Cosmopolitan, Pacific	71	25	3	1.4

Canned style (continued)

Type (continued)

In water—solid and liquid

Italian style (tonno)—heavier salting, olive oil pack

Light meat pack—albacore, bluefin, skipjack, yellowfin

Standard pack—max. 25% flakes

Composition	Tuna in oil	Tuna in water
Moisture (%)	53	70
Protein (%)	24	28
Fat (%)	20	0.8
Ash (%)	2.4	1.2

Equivalents:

3 ounces (oz) per serving

1 cup, canned in oil, drained solids = 5.6–6 oz

1 cup, canned in oil, solid and liquid = 4.7 oz

Sodium composition (canned):

Light meat chunk

Oil pack 303 mg/3 oz [85 grams (g)]

Water pack 288 mg/3 oz (85 g)

White meat (albacore)

Chunk (low sodium) 34 mg/3 oz (85 g)

Solid oil pack 384 mg/3 oz (85 g)

Solid water pack 309 mg/3 oz (85 g)

pH 5.2–6.1; cholesterol 55 mg/3 oz, canned

See Part 2: Cholesterol Control; Fish and Shellfish Composition; Frozen Food Storage; Minerals, Food; Niacin, Daily Recommendations; Vitamin A, Fish; Vitamin D, Fish

tuna cheese A chocolate-colored confection (not cheese) made from the fruit of *Tuna cardona* or *Tuna pachona*

tuna pig See prickly pear

tuna salad See Part 2: Fish and Shellfish Composition I

tuna spread

Composition: sodium 92 mg per ounce (28 grams)

Tungcheng A black and white pig that has pendulous ears and a large belly; native to Hopeh province, China

tung oil (China wood oil) A pale yellow drying oil from nuts of *Aleurites cordata* and *A. fordii*; used in paints. Iodine number 168; saponification number 194; sp. gr. 0.94

See Part 2: Fat or Oils, Physical and Chemical Properties; Fatty Acids, Fats and Oils; Fruit and Nut Rootstock; Iodine and Saponification Values; Oils, Seed and Fruit; Refractive Indices, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids

tungsten (W; wolfram) A metallic element; at. no. 74; at. wt. 183.86; oxidation state +6; has highest melting point of any metal
electron configuration 2–8–18–32–12–2
orbit K L M N O P

tungupylsa A moist, cooked, unsmoked Icelandic sausage made from finely or medium chopped, medium seasoned pork with pork fat, beef tongues, and blood added and stuffed into artificial casings

Tung-yang A white fleeced (crossbred wool), polled, fat-tailed sheep raised for wool and mutton; found in Shensi (Shanxi) province, northeast, China

tunicate Composed of layers or scales, e.g., onion

Tunis A fat-tailed breed of sheep originating in northern Africa

See Part 2: Sheep Breeds

tunny (bluefin tuna) A food fish

tunol Cod liver oil

tuo zaafi A thick porridge gruel made from sorghum or millet

tup Ram

tup hog See hogget

tur See pigeon pea

turban squash A turban-shaped (flattened round base and a knobby topknot) winter squash that is orange with streaks of cream, green, or white See squash, winter

turbary Land where sod or peat is obtained

turbid Unclear; cloudy; muddy

turbidimetric analysis An optical analysis in which concentration is determined by the intensity of light transmitted through a turbid suspension as compared with that of a standard suspension

turbot (breet; britt; butt) A flat, saltwater (Greenland) food fish that has a square-shaped body, weighs 40–50 pounds, and has white flesh; sometimes called halibut; available fresh or frozen

Chicken turbot—small turbot

Turbot, Indo-Pacific, Australia (*Psettodes erumei*)

Turbot, North Atlantic [*Rhombus* (*Scophthalmus*) *maximus*]

Turbot, North Pacific—See arrow-toothed flounder

Composition: fat 3.5%

See Part 2: Riboflavin, Food

tureen A deep dish for serving soup

turkey (*Meleagris gallo-pavo*) A large American bird that has been domesticated.

Fryer or roaster—under 16 weeks

Young turkey (young hen or tom)—a turkey (usually under 8 months of age) that is tender-meated with soft, pliable, smooth-textured skin and breast; sex designation is optional

Yearling turkey—a fully matured turkey (usually under 15 months of age) that is reasonably tender-meated and with reasonably smooth-textured skin; sex designation is optional

Mature turkey (old turkey; hen or tom)—an old turkey of either sex (usually in excess of 15 months of age) with coarse skin and toughened flesh

USDA grades: US Grade A poultry, Grade B, Grade C
Once they start to lay eggs they will continue for approximately 20 weeks and will produce approximately 85 eggs per laying period

Market weight:

Hens—18 pounds, 17 weeks old

Toms—28 pounds, 24 weeks old

782 turkey (*Meleagris gallo-pavo*)

80% dressing percentage; ratio of meat to bone higher than in chicken. Edible meat on oven-ready carcass 74–80%

Roasting times:

Turkey size (lb)	Pounds per serving
Less than 12	$\frac{3}{4}$ –1
More than 12	$\frac{1}{2}$ – $\frac{3}{4}$

1 cup, cooked = 5 ounces, cubed
 $\frac{1}{2}$ lb, ready-to-cook bird = 1 serving
 Thawing time for frozen turkey

Type of turkey	Ready-to-cook (lb)	Oven temperature (°F)	Roasting time (hr)
Stuffed whole	6–8	325	3–3 $\frac{3}{4}$
	8–12	325	3 $\frac{3}{4}$ –4 $\frac{1}{2}$
	12–16	325	4–5 $\frac{1}{2}$
	16–20	325	5 $\frac{1}{2}$ –6
	20–24	325	6–7
Foil-wrapped (unstuffed)	8–10	450	1 $\frac{1}{4}$ –1 $\frac{3}{4}$
	10–12	450	1 $\frac{3}{4}$ –2 $\frac{1}{4}$
	12–16	450	2 $\frac{1}{4}$ –3

Size (lb)	Refrigerated thawing time (days)	In warm water (hr)
4–12	1–2	4–7
12–20	2–3	7–9
20–24	3–4	

Cholesterol: 65 mg (white meat) or 86 mg (dark meat) per 3 ounce turkey (no skin) See **poultry entries**
 See Part 2: Animal Foods, Composition; Calories, Daily Recommendations; Cholesterol Control; Egg Incubation Periods; Frozen Food Storage; Meat and Meat Products Composition; Minerals, Food; Portion Size;

Turkey (all classes)	Composition				
	Moisture (%)	Protein (%)	Fat (%)	Ash (%)	Total carbohydrate (%)
Dark meat without skin, cooked, roasted	63.09	28.57	7.22	1.02	0.0
Dark meat without skin, raw	74.48	20.07	4.38	0.93	0.0
Dark meat with skin, cooked, roasted	60.23	27.49	11.54	0.97	0.0
Dark meat with skin, raw	71.13	18.92	8.80	0.86	0.0
Flesh and skin, cooked, roasted	61.70	28.10	9.73	1.0	0.0
Flesh and skin, raw	70.40	20.42	8.02	0.88	0.0
Flesh only, cooked, roasted	64.88	29.32	4.97	1.05	0.0
Flesh only, raw	74.16	21.77	2.86	0.97	0.0
Light meat without skin, cooked, roasted	66.27	29.90	3.22	1.08	0.0
Light meat without skin, raw	73.82	23.56	1.56	1.0	0.0
Light meat with skin, cooked, roasted	62.83	28.57	8.33	1.02	0.0
Light meat with skin, raw	69.83	21.64	7.36	0.90	0.0
Processed food products					
Gravy and turkey, frozen	85.07	5.88	2.63	1.81	4.61
Turkey, canned, boned with broth	66.07	23.68	6.86	1.92	0.0
Turkey frankfurter	62.99	14.28	17.70	3.53	1.49
Turkey ham, cured thigh meat	71.38	18.93	5.08	4.23	0.37
Turkey loaf, breast meat	71.85	22.50	1.58	4.18	0.0
Turkey roll, light	71.55	18.70	7.22	2.00	0.53
Turkey roll, light and dark	70.15	18.14	6.99	2.60	2.13

Potassium-Rich Foods; Poultry Class; Poultry Composition; Poultry Cooking, Frozen; Poultry Dressing Percentage; Poultry Roasting; Poultry Yield; Spoilage, Protein Foods; Turkey Composition; Turkey Varieties

turkey breast 3–5.5 pounds

turkey breast meat

Composition (cured): moisture 71.8%; protein 22.5%; fat 1.6%; ash 4.2%

turkey, chunky, canned soup

Composition: moisture 86.4%; protein 4.3%; fat 1.9%; carbohydrate 6.0%; fiber 0.4%; ash 1.5%

turkey cock A male turkey

turkey grade See poultry grades

turkey gravy

Composition	Dehydrated	Prepared with water
Moisture (%)	4.1	90.9
Protein (%)	11.8	1.1
Fat (%)	7.5	0.7
Carbohydrate (%)	60.7	5.7
Fiber (%)	0.4	0.04
Ash (%)	15.8	1.5

turkey gravy, canned

Composition: moisture 88.6%; protein 2.6%; fat 2.1%; carbohydrate 5.1%; ash 1.6%

turkey ham Cured turkey thigh meat

Composition (edible portion): moisture 71.4%; protein 19%; fat 5%; carbohydrate 0.4%; ash 4.2%

turkey hen A female turkey

Young hen—less than one year old; soft-meated; flexible breastbone

Old hen—more than one year old; toughened flesh; hardened breastbone

turkey noodle, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	86.4	93.0
Protein (%)	3.1	1.6
Fat (%)	1.6	0.8
Carbohydrate (%)	6.9	3.5
Fiber (%)	0.1	0.1
Ash (%)	2.1	1.1

turkey roll Restructured turkey tissue

Composition	Light meat	Light and dark meat
Moisture (%)	71.6	70.1
Protein (%)	18.7	18.1
Fat (%)	7.2	7.0
Carbohydrate (%)	0.5	2.1
Ash (%)	2.0	2.6

Sodium: 1.66 mg per ounce (28 grams)

turkey tom A male turkey

Young tom—usually less than one year old; soft meat; flexible breastbone

Old tom—older than one year; toughened flesh; harden breastbone

turkey-vegetable, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	86.0	92.9
Protein (%)	2.5	1.3
Fat (%)	2.5	1.3
Carbohydrate (%)	7.0	3.6
Ash (%)	1.9	1.0

Turkish

Food habits:

Animal products—eggs, lamb

Beverage—black coffee, tea

Dairy—butter, cheese, fermented milk, sour cream

Grain—rice, wheat

Seasoning—honey, onion, pepper

Vegetable—broccoli, cucumber, dandelion, eggplant, leek, okra, tomato

Turkish coffee A sweetened drink made from pulverized coffee. Finely ground coffee of a dark Vienna or French roast is brought to a boil in a small pot and removed from the heat until the froth subsides. This is repeated twice more with the brewed coffee being poured frothing (usually with sugar) into demitasse cups for serving.

Ingredient proportions: 3 tbsp coffee beans or 3 tbsp finely ground coffee, 2 tbsp of sugar, 1.25 cups of water

Turkish delight (Turkish paste) A chewy confection dusted with sugar. Made from gelatin and fruit juice

Turkish paste See Turkish delight

turmeric (*Curcuma domestica*; *C. longa*; *C. rotunda*) The rhizome of a perennial plant (ginger family) used as food, in flavoring food, and as a yellow dye; used in curry powder and mustard; yellow pigment is curcumin; rhizomes are washed, peeled, and dried and contain 30–40% starch. Sometimes substituted for saffron

Aroma: fragrant; weedy

Flavor: nutlike; bitter; weedy; tenacious

Spice used as a flavor and color additive; should be purchased on basis of color value

Terms:

Alleppey—deep yellow; curcumin 6.5%

Bulb—central rhizome

Fingers—lateral branches or secondary rhizomes (5 × 1 cm)

Madras—mustard color; curcumin 3.5%

Splits— $\frac{1}{2}$ or $\frac{1}{4}$ bulbs

West Indian—yellow-brown

Source: Haiti, India, Peru

Composition: moisture 9–12% (max. 9%); protein 7–8%; fat 9–11%; carbohydrate 64–65%; fiber 6–7%; ash 5.5–7% (max. 8.3%); acid insoluble ash max. 0.5%; crude fiber max. 9.5%; curcumin (pigment) 0.5–6.6%; starch 30–50%; volatile oil 1.3–6%

784 turmeric oleoresin

turmeric essential oil (turmeric oil) An orange-yellow liquid obtained by steam distillation

turmeric oleoresin A food additive used to flavor and/or color (yellow) food. Solvent (ethanol, acetone, ethylene dichloride) extracted

Types:

8.5% curcumin = 6 × spice

12.5–14.5% curcumin = 20 × spice

38–42% curcumin = 66 × spice

turn-around time The time between completion of production and starting of new production

turnip (*Brassica campestris*; *B. rapa*) Originated in the Mediterranean and Middle East. A biennial with a swollen purple topped, white root (also pure white, yellow, and red); a vegetable whose root is used as food; a sulfur-containing vegetable. 12,500 seeds per ounce; seed $\frac{1}{2}$ ounce per 100 foot rows; seed 1–6 pounds per acre; 2–10 day germination period; plant 2 inches apart in rows 15 inches apart; mature in 50 days; yield 1 bushel per 50 foot row. Root shape is long (cylindrical) and round with a flattened, top; 3 inches in diameter; up to 40 pounds. Tops are cooked as a vegetable; spring greens are available in canned and frozen form with and without immature roots. The root is eaten raw (strips, slices, or curls) as a snack or relish or cooked as a vegetable (sliced and diced, boiled, and mashed); do not allow root to become too large because they become fibrous and de-

velop a strong flavor. Also used as a livestock feed (can impart flavor to milk)

Refuse: 30%

100 pounds (lb), fresh topped = 7–8 lb, dry

1 bushel topped = 54 lb

1 lb, fresh = 3 medium sized turnips

= 2 cups cooked

= 4 serving

1 pound, turnip top greens = 2 servings

1 medium turnip, peeled, diced = 0.75–0.8 cups

1 cup, raw = 100 grams (g)

1 cup, canned, solids and liquids

= 7.8–8.2 ounces (oz)

1 cup, boiled and drained = 5 oz

1 cup, cooked = 195 g (6.9 oz)

1 serving = 0.25–0.5 lb, root

= 0.4 lb, greens

Composition	Greens	Root
Moisture (%)	90	91
Protein (%)	3	1
Fat (%)	0.3	0.2
Carbohydrate (%)	5	4–7
Fiber (%)		1.1–2.2
Ash (%)	1	1
pH		5.2–5.6

Sodium: 53 mg per cup, cooked

Storage (roots): Remove tops and store covered (90–95% relative humidity) in refrigerator (32°F); use

Turnip variety	Season (days)	Root shape	Root Color	Leaves
Early White, Flat Dutch		Small globular	White	
Golden Ball (Orange Jelly)		Large, elongated	Yellow, strong flavor	
Just Right	27 (foliage) 50–60 (root)	5 × 3 in., flattened globe	White, white flesh	Heavy, upright cut-leaved foliage
Large White Globe		Globular	White	
Large Yellow Globe		Large, elongated	Yellow, strong flavor	
Purple-Top White Globe	50–57	4–6 in., almost round	Purple top, white body, white flesh	
Seven Top (foliage)	45	No edible root		Edible, dark green
Shogoin (foliage)	30 (foliage) 70 (roots)	3–4 in., flattened globe	White	Used as greens (20 in.)
Snowball		Small, globular	White	
Tokyo Cross	35	2 in. and up, semiglobe	White, smooth	Tops used as greens
Tokyo Market White Egg	50–60	Small, globular	White	
Yellow Aberdeen		Large, elongated	Yellow, strong flavor	

in 1–4 weeks; gives off odor during storage; can be stored in pits or cold cellars

Storage (greens): Remove root, wash, and drain; store in refrigerator crisper or plastic bags; use within 1–2 days. *See* **turnip greens**

See Part 2: Microwave Cooking, Fresh Vegetables; Minerals, Food; Minerals, Plant or Animal Tissue; Nitrate, Vegetables; Plant Foods, Composition; Planting Density; Root Crop Characteristics; Storage; Sugar, Vegetables; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Storage; Vegetable Yields

turnip aphid (false cabbage aphid; *Hyadaphis pseudobrassicæ*) A pale green insect similar to the cabbage aphid but without a waxy body; feeds on mustard, radish, and turnip

turnip cabbage *See* **kohlrabi**

turnip greens Turnip grown for roots; also planted for greens

Variety:
Seven Top—no edible root
Shogoin
See **turnip**

turnip-rooted celery *See* **celeriac**

turnip-rooted parsley An edible root with a dry, white, flesh and a flavor similar to celeriac. Can be left in ground until after hard frost. *See* **parsley, hamburg**

turnip, swede A rutabaga

turnip top *See* **raab**

turnover 1) The rate at which fat is consumed during frying. Will be affected by: amount of fat absorbed per unit of food; number of units fried during heating period; ratio of food in kettle at one time; temperature of frying. 2) A baked semicircle of pastry folded over a sweet or savory filling; e.g., apple

See Part 2: Frying Time

turp Ram lamb often after first shearing

turpentine An oleoresinous liquid extracted from the *Pinus* species of trees; used as a solvent; boiling point 155–165°C; 1 barrel = 432 pounds; 1 gallon = 7.2 pounds

See Part 2: Essential Oils

turpentine weed A plant having a toxic principle

See Part 2: Poisonous Plants

turret machine (capper, labeler) A pivoted and revolving machine attachment carrying tools of different dimensions or functions, so that various size containers can be capped or labeled.

tursu 1) Mixed pickles. 2) Pickled fruit

turtle (*Testudines*) An aquatic reptile; a saucer-shaped reptile used for food

Diamond-back terrapin (*Malaclemys centrata*)
Green (*Chelonia mydas*; *Chelone midas*)—average 400 pounds
Hawkbill (*Eretmochelys imbricata*)
Leathery (*Dermochelys coriacea*)
Loggerhead (*Caretta caretta*)
Slider (*Pseudemys* spp.)

turtle oil Oil obtained from giant sea turtles; often used in skin lotions

turunmaa A smooth, cheddar cheese

Tuscarora rice *See* **rice**

tuschinsk (ossetin) A sheep's or cow's milk cheese

tusk (*Brosme brosme*) A food fish

tu-su Strong, black, soybean paste used as flavoring

tuttifrutti Ice cream, dessert, or chewing gum containing fruit; mixed soft fruit and sugar in brandy; sauce containing many fruits; a combination of fruits

tuwak *See* **tuak**

tuwon kativara Balls of cooked millet or sorghum flour

twaité shad (*Clupea finta*) A food fish

twarog A ricotta-type cheese made from cow's milk; usually consumed fresh

twdr sir An esbareich-type cheese made from skimmed, sheep's milk

tweed kettle Salmon hash

Tween A proprietary name for a series of emulsifiers, detergents, and surface active agents

twig Small shoot or branch

twig girdler An insect that girdles around twigs, which kills the twigs. The adult is a brown beetle, about $\frac{1}{2}$ inch long; the larvae are white, legless grubs

twist 1) Yellow skin of lemon cut into $1 \times \frac{1}{4}$ inch size and twisted; used as garnish. 2) Pastry twisted before baking

two-four-D *See* Part 2: Corn Herbicides

two percent A milk designation equivalent to the percentage of fat

See Part 2: Dairy Terms

two-price plan Supporting that part of production used in the domestic market at one price and selling the remainder for export at market price

tworog (notruschki) A sour milk cheese *See* **notruschki**

two-spotted spider mite (*Tetranychus urticae*) A pest of pear. The adult is yellow or orange in the winter; when feeding (sucking), it is yellow to green with two dark spots; it spins a web of silken threads on the undersides of leaves; damaged foliage is bronze in appearance and normal fruit development is affected (fruit stunted)

Host: 150 agricultural crops and ornamental plants
Control: miticide

two-tailed test (two-sided test) A test based on both sides (tails) of a distribution

two-toned Meat tissue where neighboring muscles or areas of one muscle are of different shades of color

two-year-old An ovine animal (sheep) from 2–3 years of age

tybo A loaf-shaped, gold, gouda-type cheese with a red rind; sometimes flavored with caraway

tylosin A macrolide antibiotic that is added to food in some countries. A drug used to promote growth, increase efficiency, control disease, and reduce liver abscesses

tylzycki A tilsit-type cheese

Tyndall effect Light scattering or reflection by colloidal particles; does not occur with true solutions

type Refers to intended use of animal; e.g., meat-type, wool-type

type I error Rejection of a true hypothesis

type II error Acceptance of a false hypothesis

typhoid fever A contagious disease caused by impure water supply or food (coconut, egg products, shellfish, unpasteurized milk); caused by *Salmonella typhi* (paratyphoid; *S. paratyphi*). Organism destroyed by pasteurization

See Part 2: Diseases, Food-Borne; Illness from Food; Infectious Agents; Infectious Diseases, Food-Borne

typhosa See Part 2: Microorganism, Media

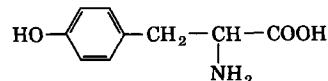
tyro Cheese

tyroler A moist, cooked unsmoked Australian sausage made from medium chopped, mildly seasoned, beef and veal

tyrol sour cheese A sharp, sour, milk cheese

tyrosinase An oxidase enzyme that is widely distributed; it is responsible for the darkening of the cut surface of a potato that has been exposed to air; oxidizes tyrosine to homogentisic acid and melanin pigments

tyrosine



A nonessential, aromatic amino acid. Used as a food nutrient and dietary supplement

Storage: tight container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

tzuica Plum brandy

U The symbol for the element uranium. 2) On the label of a food product, indicates that the product complies with Jewish dietary law and is authorized by the Union of Orthodox Jewish Congregations

u A wine made from glutinous rice

UBARI Union of Burma Applied Research Institute

ubwali A sourdough, fermented, cassava (with or without cereal) dumpling

ubwalwa A sorghum beer

UCL Upper control limit

ucuru A sour porridge made from maize, millet, or sorghum

ucuu A sour porridge made from maize, millet, or sorghum

udder (bag) The mammary gland (milk-secreting organ) of, e.g., a cow or goat

udo 1) *Aralia cordata*, a perennial vegetable that produces blanched (protected from light) stalks (6 in.) that must be cooked for 10 min (to remove turpentine flavor) in salt water prior to eating. 2) A salad of crisp, blanched stems eaten with salt

udon Thick noodles made from wheat flour

ugali A sourdough, fermented, barley dumpling

ugba (ukpaka) Dark brown, fermented balls, of the African oil bean (a legume); used in soups and stews

ugli (tangelo) A citrus fruit that is a hybrid between grapefruit and orange or tangerine that looks and is used like a small grapefruit; the peel is rough and disfigured; the fruit is sweet, with an orangelike flavor. *See also* tangelo

UHT sterilization Ultra-high-temperature sterilization (96–153°C for 3 s or less)

uji A sour porridge made from maize or sorghum

ukanya A wine fermented from fruit of the marab or cider tree (*Sclerocrys caffra*)

ukpaka *See* ugba

ullage The amount of unfilled space in a container

ullaged Describes a container that has lost part of its original contents

ulna The caudal of the two bones in foreshank; in ruminants it is smaller than the radius and often fused to it; in swine it is often larger than the radius and not fused to it.

See Part 2: Bone

uloa A tilsit-type cheese

Ulrich milk *See* Part 2: Microorganism, Media

ultra-high-temperature pasteurization (UHT pasteurization) Pasteurization at a high temperature for a short time, which improves flavor

ultramarine blue A synthetic food additive used to color food

ultramicroscope An optical microscope equipped with a device for admitting a beam of light at right angles to the sample being studied, which is usually a colloidal solution. The suspended solid particles in the liquid reflect the light as they turn end-over-end, thus indicating their presence, even if the particles themselves are below the resolution range of the microscope.

ultrasonic High-frequency sound waves from 200,000 cycles per second to several thousand MHz

ultraviolet Electromagnetic radiation with a wavelength of approximately 1850–4000 angstroms (Å), which is shorter than visible violet light and longer than X-rays; the most effective germicidal wavelength is 2600 Å. Ultraviolet light is used for sterilization, microorganism control during meat aging, and vitamin D activation in milk.

See Part 2: Waves, Energy-Producing

ultraviolet curing Polymerization of material by using short-wave ultraviolet light

-um A Latin suffix that indicates the singular

µm *See* micro-

Umbelliferae The parsley family

See Part 2: Vegetables, Classification

umbl Edible mammal entrails

umbugug A sorghum beer

umcuku A sour gruel made from yogurt and maize

umeboshi Sour plums that have been pickled

umeshi Wine fermented from plums (*Prunus* spp.)

uminkowa (cummin) A moist, cooked, double-smoked Polish sausage made from medium-chopped, medium-seasoned beef and pork stuffed into artificial casings

umm balbal A millet beer

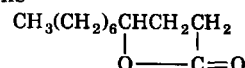
UN United Nations

unabsorbed Not absorbed; unavailable

uncooked, smoked sausage A sausage made from cured or uncured meat that has been comminuted, seasoned, stuffed into casings, and smoked but not cooked (must be cooked before consuming), e.g., kielbasa, mettwurst, and smoked country-style pork sausage

UNCTAD United Nations Conference on Trade and Development

undecalactone



788 uncooked, smoked sausage

- Used as a peachlike flavoring agent in food; sp. gr. 0.942–0.946
Storage: Full, tight, glass, container in a cool, dark place
- undecanal** [$\text{CH}_3(\text{CH}_2)_9\text{CHO}$] An artificial flavoring; used as a sweet, fatlike flavoring agent in food; sp. gr. 0.824–0.832
Storage: Full, tight, glass, container in a cool, dark place
- undecenal** [$\text{CH}_2 = \text{CH}(\text{CH}_2)_8\text{CHO}$] Used as a fatty, roselike flavoring agent in food; sp. gr. 0.840–0.850
Storage: Full, tight, glass, container in a cool (above 10°C), dark place
- undercut** Fillet of beef
- underfeeding** Not providing sufficient dietary energy
- underfilm corrosion** Metal breakdown caused by foreign material reacting with the metal of a can under what appears to be a satisfactory coating
- underground onion** See **onion, potato**
- underliner** A plate under a soup dish or cocktail glass
- undernutrition** Pathological state of the body arising from an inadequate intake of food or a caloric deficiency resulting in reduced body weight
- UNDP** United Nations Development Program
- undrawn poultry** Dressed poultry that has been picked but has not had the entrails removed
- undulant fever** Human brucellosis; contracted from animals or animal products
See Part 2: Illness from Food
- unequal to** Not equal to; indicated by symbol \neq
- UNESCO** United Nations Educational, Scientific, and Cultural Organization
- ungar salami** A coarse sausage made from pork
- uni-** A prefix used to indicate one or single.
- UNICEF** United Nations Children's Fund (originally United Nations International Children's Emergency Fund)
- unicorn plant** See **martynia**
- UNIDO** United Nations Industrial Development Organization
- unilaterally cryptorchid** The failure of one testicle to descend at birth; this will reduce the sperm count but the animal will remain fertile.
- unimelt cement** A substance used on cans with a cemented side seam
- unipub** A source of publications of the United Nations and other international information, with offices at 345 Park Avenue South, New York, NY 10010
- unit cell** The smallest group of atoms having the same composition and arrangement in space that can be selected in a crystal
- unit cleaning** Using (during fabrication or processing) units that are capable of special applications, e.g., steam, high-pressure, or foam units
- United Nations International Children's Emergency Fund (UNICEF)** The original name of a branch of the United Nations that aids underprivileged and underfed children; it is now called the United Nations Children's Fund. Its interest is in child welfare and nutrition, and its headquarters are in New York City.
- unit of account** A monetary unit of the European Economic Community (EEC)
- unit of measure** The unit used to specify the amount of an item purchased
- unit pack** The total seasoning needs for a production unit assembled by a supplier
- unit portion packaging** A production scheme by which the product is packaged in premeasured quantities of anticipated use
- unit prefix** Used with units of measure
Pico- (p)— 10^{-12} times the base unit
Nano- (n)— 10^{-9} times the base unit
Micro- (μ)— 10^{-6} times the base unit
Milli- (m)— 10^{-3} times the base unit
Kilo- (k)— 10^3 times the base unit
Mega- (M)— 10^6 times the base unit
- univalent** Having a valence of 1
- univalve** A mollusk with a one-piece shell
Types: abalone; cockle; conch; sea snail; snail
- universal indicator** A mixture of pH indicators that will change color several times over a wide pH range
See Part 2: pH, Universal Indicators
- universal product code (UPC)** A number that is assigned to a product and encoded as a bar code (composed of black parallel lines of varying widths) that can be read by a scanner; it is part of a standard number system that provides a unique identification of each item. This number is on file in the store's computer, with current price, item description, tax status, and inventory information.
- universal product code (UPC) symbol** The encoded, machine-readable, printed form of a UPC number
- universal product code (UPC) symbol verifier** A scanning device for decoding the machine-readable part of the UPC symbol
- unleavened bread** Bread made without yeast or other rising or leavening agent, e.g., matzoh
- unofficial** Describes a method that requires additional product analysis before regulatory action may be taken; such methods are used to determine the need for the use of official methods in product testing and as a preliminary phase of official methods development.
- unpolished rice** Whole rice grain with only the husk removed
- unripe** Immature; green
- UNROD** United Nations Relief Operation, Dacca
- unsanitary** Not hygienic; not sanitary; unclean; septic; polluted
- unsaponifiable** Describes that portion of a mixture that will not react with an alkali to form a soap;

composed of fat-soluble, complex organic chemicals, e.g., cholesterol

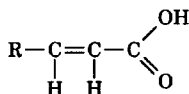
unsaponifiable matter analysis Determined by saponifying the fat with alcoholic potassium hydroxide and then extracting the unsaponifiable matter with ether and evaporating the ether; the residue is unsaponifiable matter.

See Part 2: Unsaponifiable Matter

unsaturated Describes an organic compound in which one or more double or triple bonds is present between carbon atoms

See Part 2: Fuel, Heating Value; Poultry Composition; Rapeseed Oil, Triglyceride Mole Percent Composition; Sausage Composition; Soups, Composition; Sugars and Sweetens, Composition

unsaturated fatty acid A fatty acid containing one or more carbon-to-carbon double or triple bonds, e.g.,



Such acids have a lower melting point and are softer than saturated acids of the same chain length; they exhibit greater reactivity with oxygen, greater development of rancidity, and more of a tendency to polymerize. See **unsaturation**

See Part 2: Beans, Peas, and Nuts; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Characteristics; Fats and Oils, Composition; Fish and Shellfish, Composition; Fruit Composition; Grain Products, Composition; Meat Composition; Tallow, Beef, Triglyceride Mole Percent Composition; Unsaturated Fatty Acids; Vegetable Composition

unsaturation A operation that increases the proportion of unsaturated fats, which develop rancidity quicker, polymerize more easily and have a lower melting point than saturated fats See **unsaturated**; **unsaturated fatty acid**

See Part 2: Lard, Triglyceride Mole Percent Composition

unscrambler A device for placing containers in single file before they enter a filling or labeling machine

unsealed Describes a broken hermetic seal on a glass container

unslaked lime See **calcium oxide**

unsoundness A defect; the improper or abnormal functioning of a body or body part(s)

unsweetened chocolate Chocolate sold in bar-shaped package containing 1-oz squares or in liquid form; the flavor is deep, rich, and bitter

1 square = 1 envelope of liquid
= $\frac{1}{4}$ cup dry cocoa powder

unsweetened pack Food packed dry or in water with no sweetener added prior to freezing

unwholesome Unsafe to consumer; not wholesome; unhealthy

uova Egg

UPC See **universal product code**

upi The top liquid layer of chicha

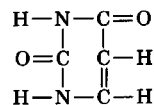
upland cress (*Barbarea verna*) Slightly more bitter than garden cress See **cress, American**; **garden cress**

upper control limit (UCL) The level that the number of defectives (or the value of variables) must be below if a procedure is in control

upside-down cake A cake baked with batter above fruit and turned over for serving

upsilon (Υ , ν) The Greek letter with an English equivalent of u

uracil A biochemical compound used in research and obtained by hydrolysis of nucleic acids



uranium (U) A radioactive metal of the actinide series; element; at. no. 92; at. wt. 238.07; Group IIIB of the Periodic Table; oxidation states +3, +4, +5, +6;

electron configuration 2-8-18-32-21-9-2
orbit K L M N O P Q

urase See **urease**

urbasa See **aralar**

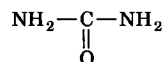
urbia See **aralar**

urd See **urdbean**

urda A ricotta-type cheese with herbs, made from cow's milk and usually consumed fresh

urdbean (**black gram**; **mash**; **urd**; **urid**; *Vigna mungo*) Similar to the mung bean except the seeds are smaller, usually black with a raised white concave hilum, and shorter, and in more hairy pods

urea



The chief excretory nitrogenous product of mammals, amphibia, and fish; it is odorless and has weak basic properties; a white, crystalline, water-soluble compound that is used as a source of nonprotein nitrogen in ruminant diets (max. 3 lb per 100 lb grain); 1 lb urea + 6 lb ground corn is equivalent in feeding value to 7 lb oil meal. Urea is also used in wine making, as yeast food, and to brown bakery products.

Composition: nitrogen 45%; protein equivalent 281% It can also be used as fertilizer; 45-0-0; hydrolyzes to ammonium in soil; it is acid in nature and would require 0.75 lb dolomitic limestone to neutralize each pound of urea applied.

See Part 2: Fertilizer Materials; Microorganism, Media; Microorganism Reactions on Differential Tube Media

urease (**urase**) An enzyme that converts urea to ammonia and carbon dioxide

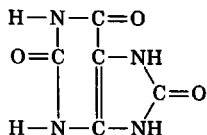
Source: soybeans

urgotnic Yogurt

urgwawa A beer made from roasted sorghum with banana

uri 1) A type of dawadawa. 2) A sweet-potato-based arrack beverage. 3) A hard cheese made from cow's milk with rennet added

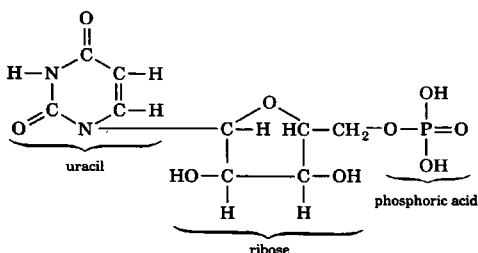
uric acid The chief excretory nitrogenous product of birds and reptiles



A normal constituent of human urine (0.5–0.6 g/day); high blood levels of uric acid and salts of uric acid or urates cause gout, kidney stones, and bladder stones

urid See **urdbean**

uridylic acid An RNA nucleotide



urine The waste fluid of the body, excreted via kidneys and bladder; avg. secretion 1000–1500 cc/day; avg. total solids 60 g/day; avg. urea 30 g/day; sp. gr. 1.020

See Part 2: pH Values of Biological Materials

urkatziteli A light brown wine

urner A Swiss cheese made from partly skimmed cow's milk

urwaga beer made from green bananas, maize, millet, or sorghum

-us A Latin suffix that indicates the singular

US Agency for International Development (USAID) Maintains offices in Washington, DC 20523

USAID See **US Agency for International Development**

US Army Natick Laboratories Center of food and materials research for the Department of Defense, located in Natick, Massachusetts

USBA United States Brewers' Association

US certified color Appellation given to batches of color that have been passed by Food and Drug Administration (FDA) inspectors because they contain no more than the acceptable amount of impurities

USDA See **US Department of Agriculture**

US Department of Agriculture (USDA) The government department (established in 1862) that is responsible for all matters relating to agriculture and

uzvaret Wine

food quality; it establishes grades and standards for food products, meat inspection, plant sanitation, toxicity, etc. It maintains four regional research laboratories for food-related research; these are located at Philadelphia, Peoria, Albany, California, and New Orleans.

US Department of Agriculture, Handbook No. 8

A manual containing tables on the nutritive value of food

USDI US Department of the Interior

use test A test based on consumer reactions after using a product

US Insp'd and P'S'D A round stamp placed on meat to indicate it has passed USDA inspection

USP United States Pharmacopoeia See **U.S. Pharmacopoeia**

U.S. Pharmacopoeia (USP) The standard compendium of drugs and medicines; the 22nd revision was published in 1990. The USP grade is a standard of chemical purity that meets USP specifications. For most practical purposes the USP and international units (IU) are identical. See also **grade**

US Recommended Daily Allowances (US RDA)

A standard of specified vitamins, minerals, and proteins essential for humans as listed by the US Food and Drug Administration; used for nutritional labeling and replaces the minimum daily requirement (MDR); the US RDAs are higher than the MDRs and include additional vitamins and minerals; they are based on the 1968 recommended dietary allowances (RDA) and on the RDA for each nutrient in each life cycle category, but with fewer age groups. US RDAs are a good index of the nutritional values of foods.

See Part 2: Nutritional Labeling

USSR Union of Soviet Socialist Republics

usukuchi shoyu A light colored soy sauce made with wheat

uterus A female reproductive organ

u-t-iat A starter culture used to inoculate sake

utility See Part 2: Grades, Meat; Lamb Quality Guide

utschwala A sorghum beer

uttoro kolbasz A salami made from beef and pork

utu A citrus liqueur

utywala A sorghum beer

UV An abbreviation for ultraviolet; e.g., UV technique, an ultraviolet spectroscopic technique for detection and quantification

uva Grape

UV absorber A substance that prevents the ultraviolet radiation in sunlight from attacking the skin; used in suntan lotions, ointments, and cosmetic preparations

uva-ursi (bearberry; mountain box; rockberry) An astringent evergreen shrub used as a herb

uwo shoyu A fish sauce made from sardines (*Clupea* spp.), malted rice, and koji

V

V See **vanadium**; **volt**

vaccenic See Part 2: Unsaturated Fatty Acids

vaccino An Italian cow's milk cheese

vaccination Artificial immunization

vachard A muenster-type cheese made from cow's milk

vacheloo A medium flavored, semisoft cheese

vacherin A small, round, camembert or muenster-like cheese made from cow's milk and that has a firm crust and very soft interior

Types:

Vacherin à la—a firm rind, rennet cheese with a liquid interior

Vacherin fondu—similar to emmenthaler

vacuole A cavity or fluid-filled space in a cell; in animals it is very small; in plants it becomes larger as the cell ages

vacuum A space from which virtually all the air has been removed; a state of pressure below atmospheric See Part 2: Temperature of Vaporization, Latent Heat of Vaporization, Boiling Point

vacuum closure Suitable closure for processing; designed to maintain a vacuum

vacuum drying Drying a product in a vacuum to assist dehydration

vacuumize See **vacuum-packaging**

vacuum-packed food Food that is sealed under vacuum in a container

vacuum-packing (vacuumize) Removing air from a container before hermetically sealing. Retards oxidation; can contain only very small amounts of brine or water

vacuum-pan A closed kettle from which air is exhausted, thereby permitting a cooking temperature lower than at atmospheric pressure

vada Deep-fried cakes or balls of spiced legume flour

valdeblore See **tomme de valdeblore**

valdepenas A high alcohol, light, red wine

valençay A soft to semisoft, French cheese made from goat's milk and that has a smooth consistency, close white curd, medium delicate (sometimes strong) flavor, and is shaped like a flattened disk or pyramid (100–300 grams)

valence Combining power of an element or group; number of hydrogen atoms it can combine with or replace. The number of charges an atom can attract See also **oxidation number**

Valencia A variety of California orange that is oblong in shape; in season from May to November; a

variety of late Florida orange that is often used in frozen concentrate. The skin color ranges from medium orange through yellow or green to russet; medium flavor; a lot of juice; a light juice and pulp color

valerian (all heal; *Valeriana officinalis*) An essential oil containing binene, borneol, and camphene; from dried root

See Part 2: Essential Oils

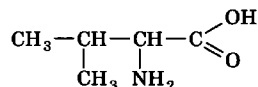
valeric acid (pentanoic acid) $[\text{CH}_3(\text{CH}_2)_3\text{COOH}]$ Used as a rancidlike, flavoring agent in food; sp. gr. 0.934–0.940

Storage: tight container

validated method A method that is subjected to an interlaboratory study in three laboratories. The resulting data are reviewed by a peer group of government scientists. The data that result from the study are made available for review upon request.

validation study A study, involving three laboratories, conducted before the distribution or publication of an official analytical method. It determines if a specific analysis will work and sets the acceptable statistical requirements for analytical results (reported values) for future use of the specific method

valine



Monoamino-monocarboxylic, essential, amino acid obtained by hydrolysis of proteins, or made synthetically. Used as a food nutrient or dietary supplement

Storage: tight container

See Part 2: Amino Acids; Amino Acid, Solubilities; Corn, Amino Acids; Egg Products, Nutritive Value; Grain Analysis; Manure Analysis; Milk, Amino Acids; Seed, Chemical Composition; Wheat, Amino Acids; Wheat Products, Amino Acid Compositions

valpolicella A full-bodied, light, cherry-red, Italian wine

valsic An esbareich-type cheese made from sheep's milk

value Lightness or darkness of a color

value analysis The systematic use of certain techniques that identify, establish a value for, and provide a required function at the lowest overall cost

vanadium (V) A metallic element; at. no. 23; at. wt. 50.95; Group VB of the Periodic Table; oxidation states +2, +3, +4, +5

electron configuration 2–8–11–2
orbit K L M N

vanaspati A hydrogenated vegetable oil; a 100% fat-type margarine. Clarified butter made from vegetable (often palm oil) oil

van der hum A liqueur made from brandy and flavored with fruit (e.g., bitter orange, tangerine) and herbs

vandermint A liqueur flavored with mint and chocolate

vanilla (*Epidendrum vanilla*; *Myrobroma fragrans*; *Vanilla aromaticus*; *V. fragrans planifolia*; *V. f. variegata*; *V. planifolia*; *V. pompona*; *V. tahitensis*) A bean seed pod (6–10 inches long and $\frac{1}{4}$ – $\frac{1}{2}$ inch thick) or its alcoholic extract used in flavoring food. Bean (capsule) is triangled, 10–25 cm \times 5–15 cm and contains minute (0.3 mm) globose seed.

Pod curing: dip in boiling water and slow dry (black in color) and pack in foil-lined boxes

Extract (alcohol) of fermented vanilla bean used for flavoring.

Physical forms:

Cuts—short lengths or very small, whole beans

Splits—partially split longitudinally

Whole bean

Bundles of beans: 70–130 beans, 350–500 grams; box 40 bunches

Vanillin (2–3%): main flavoring component;
2 tbsp of extract = 1 ounce

Vanilla types:

Bourbon (*V. fragrans*)—deep body; less aroma

Indonesian (*V. fragrans*)—full body

Mexican (*V. fragrans*)—superior flavor and aroma

Grades:

Extra—35–40% moisture

Superior

Good—superior

Good

Medium—good

Medium

Ordinary—10% moisture

South American (*V. fragrans*)—deep body; less aroma

Tahiti (*V. tahitensis*)—lower vanillin content; floral—sweet aroma

West Indian (*V. fragrans*)—deep body; less aroma

See also **vanillin**

See Part 2: Flavor Ingredients, Taste and Flavor Type

vanilla absolute Semisolid absolute is obtained by alcohol extraction of vanilla bean and removal of the solvent or by alcohol washing of an oleoresin.

1 gram vanilla absolute

= 7–13 grams of vanilla bean

vanilla bean Cured and dried fruit of *Vanilla planifolia* and *V. tahitensis*. Moisture max. 25%

vanilla extract A product made by chopping cured vanilla beans in 50% alcohol and subsequent percolation; in 100 cc must be the soluble matter from at least 10 grams of vanilla bean; vanillin 0.10–0.35%; ash 0.20–0.43%. Flavor of extract improves with age; intensifies flavor of food to which it is added; sometimes contains sugar. Quality depends on grade of alcohol, grade of beans, length of aging extract, and method of curing. Minimum 35% ethyl alcohol. Other permitted ingredients: corn syrup, dextrose, propy-

lene glycol, sugar (including invert sugar), water, and glycerin

Singlefold (approximately 0.2% vanillin)—100 cc alcohol + 10 g beans

Doublefold—100 cc alcohol + 20 g beans

Fourfold—100 cc alcohol + 40 g beans

Types of extract	100 cc must contain soluble matter form	Volume of ethyl alcohol (%)
Vanilla, concentrated	100 g of beans	30
Vanilla 4 \times strength	40 g of beans	35
Imitation vanilla	5% true vanilla extract mixed with vanillin and coumarin	

vanilla extract, artificial (vanillin and coumarin)

Chemically similar to natural vanilla except it lacks the natural resin and gums. It evaporates slower on cooking and freezing.

vanilla extract, concentrated Concentrated vanilla extract prepared by removing part of the solvent. Same alcohol content as vanilla extract (not less than 35%)

vanilla flavoring Similar to vanilla extract except it contains less than 35% alcohol by volume

vanilla flavoring, concentrated Concentrated vanilla flavoring prepared by removing part of the solvent. Same alcohol content as vanilla flavoring (less than 35%)

vanilla, imitation Has a sharper and less subtle flavor than the natural product

vanilla oleoresin A semisolid concentrate prepared by complete removal of the solvent (ethanol or isopropanol is often used) from vanilla extract. Inferior in flavor and aroma to vanilla extract. For use as flavoring the oleoresin is diluted 1-, 2-, or 10-fold as required

vanilla powder 1) Pure powdered vanilla (bean). 2) Usually a mixture of vanilla powder and/or vanilla oleoresin with sugar (usually a minimum of 30%) or dextrose or lactose or food starch or dried corn syrup or gum acacia and sometimes an anticaking agent such as 2% aluminum calcium silicate

vanilla sugar Sugar flavored with vanilla bean by packing both in a closed container; vanilla powder (minimum 25%) and sucrose; sugar flavored with vanilla used in cooking and for sweetening fruit

vanilla tincture Similar to vanilla extract except it may contain sugar, is prepared with perfume alcohol, and has an alcohol content of at least 38% (usually 90%)

vanilla tincture, perfumery Prepared by maceration of bean with perfumery alcohol; alcohol content approximately 90%

vanilla unit Total sapid and odorous principle extractable from one unit weight of vanilla bean by an aqueous alcohol solution in which the content of ethyl alcohol by volume amounts to not less than 35%

vanilla-vanillin extract Dilution of vanilla oleoresin with synthetic vanillin

vanilla-vanillin flavoring Dilution of vanilla oleoresin with synthetic vanillin; alcoholic content less than 35%

vanilla-vanillin powder Vanilla-powder fortified with synthetic vanillin

vanilla wafer A cookie

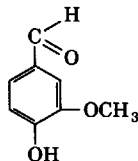
1 cup, finely crushed = 22-30 cookies

1 cup, coarsely crumbled = 20 cookies

$1\frac{3}{4}$ inch cookie = 20 calories

See Part 2: Grain Products Composition

vanillin



The primary flavoring ingredient in vanilla; obtained by extraction from vanilla beans or from lignin in sulfite waste liquor

1 part = 400 parts vanilla pods

2-3 parts = 500 parts tincture vanilla

Storage: tight container in a dark place

See also **vanilla**

vapid Loss of flavor and quality; absence of character; insipid; flat

vapor drift Movement of vapors from area of application

vaporization Conversion of a liquid to a vapor by heat; for water latent heat of vaporization is 540 calories per gram See **heat of vaporization**

See Part 2: Temperature of Vaporization, Latent Heat of Vaporization, Boiling Point

vaporization point The temperature at which a liquid turns to a vapor See also **boiling point**

vapor pressure Pressure exerted by the evaporation of molecules from a liquid at a given temperature; when the vapor pressure reaches the atmospheric pressure the liquid boils

See Part 2: Ice, Vapor Pressure

varec (kelp) Ash obtained from a seaweed from which iodine is extracted

varenetz Yogurt

varenukha Yogurt

varhia Yellow, dried cereal or legume balls that are deep-fat fried

variable In inspection, it is a quality characteristic of an item or sample that is measured

variable levy An import charge that varies depending on prices within and outside the EEC

variance (σ^2) Variation of observations; it is the square of the standard deviation estimation; estimated by mean square

variant Minor difference from the species

variety Plant that is bred or selected, generally uniform, and breeds true from seed. A variety from a crossing program is called a cultivar. Prior to release a variety is called a genetic line

variety meat (offal; organ meat, side meat) An edible organ or gland; edible offal

Types:

Brain

Hearts

Hog intestines (chitterlings)

Kidney

Livers

Oxtail

Pancreas (sweetbread)

Pig's feet

Pig's tails

Spleen (melt)

Stomach wall (tripe)

Testicles (fries)

Thymus (veal sweetbread)

Tongue

Walls of stomach

"With variety meats" label—sausage consisting of not less than 15% of one or more kinds of raw skeletal muscle meat

Storage: Coldest part of refrigerator; use within 1-2 days.

See Part 2: Animal Foods, Composition; Meat Storage; Pork Storage; Storage Times; Variety Meat, Cooking; Variety Meat Percentage of Daily Recommended Allowances; Variety Meat Preparation; Vitamin A, Food

varkensvlees Pork

varmkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned (potato starch, skimmed milk powder) beef and pork and stuffed into peelable sheep casings

varnish Oleoresinous (oil base) or synthetic resin used on the exterior of food containers

varumi Wine fermented from dates (*Phoenix dactylifera*) See **khar-jura**

varzi A salami made from coarsely chopped pork or pork and beef

vascular Blood vessels

vascularization A system or degree of arrangement or a pattern of blood vessels

vas deferens The single tube that transports sperm from the epididymis to the urethra during ejaculation

Vaseline (petroleum jelly) A proprietary name for a purified mixture of hydrocarbons distilled from petroleum See **petroleum**

vaslerbottensost (West Bothian) A hard, pungent, bitter, aged cheese; strong, sometimes spiced cheddar cheese; a hard, pungent, cow's milk cheese that is cured 8-12 months

vaso- Prefix for structures such as a vessel or a duct

vasoconstrictor A chemical or mixture that reduces the diameter of certain blood vessels, thus restricting proper circulation

vasodilator The reverse of vasoconstrictor

vastgotaost (West Gothland) A semihard, pressed, Swiss cheese made from cow's milk and cured 4-6 months

794 vastus intermedius

vastus intermedius See quadriceps

vastus lateralis See quadriceps

vastus medialis See quadriceps

VAT Value added tax

vatika Deep-fried cakes or balls of spiced lablab bean (*Dolichos lablab*)

vatrushki Open-topped; cheese-, fish-, meat-, and sometimes fruit-filled, fried, open-topped, wheat flour, dough pie

vattayappam A steamed rice bread that contains coconut and cumin

VDT Video display terminal

veal Young bovine flesh from 3–14 weeks old at slaughter; carcass weight up to 150 kg; no permanent incisors; steak or large chop, either with or without bone; flesh is light in color and contains little marbling; high in moisture

Cooking temperature:

Medium—160°F

Well done—170°F

Composition (cooked, lean): sodium 69 mg/3 ounces (85 grams); cholesterol 84 mg per 3 ounces

See Part 2: Animal Foods, Composition; Braising Time; Bone; Calories, Daily Recommendations; Cattle; Cholesterol Control; Cooking in Liquid, Time; Food, Composition; Frozen Food Storage; Grades, Meat; Iron, Daily Recommendations; Liver; Meat and Meat Products Composition; Meat Composition; Meat, Frozen Storage; Meat Identification; Meat Label; Meat, Nutritive Value; Meat Storage; Minerals, Food; Niacin, Daily Recommendations; Riboflavin, Daily Recommendations; Roasting Meat; Roasting, Time and Temperature; Sausage Identification; Simmering Meat; Thiamin, Daily Recommendations; Thiamin, Food; Veal Chart; Veal Cuts; Veal Cuts and Uses; Veal Roasting; Veal Wholesale Cuts; Vitamin A, Food

veal back A wholesale cut of veal from the fourth rib to the hip bone

veal chuck A wholesale cut of veal consisting of all in front of the fourth rib; sides may be split or unsplit

veal cutlet A veal round steak

See Part 2: Braising Meat

veal German sausage A moist, cooked, unsmoked Australian sausage made from finely chopped, mildly seasoned (with or without garlic) veal and stuffed into artificial casings

veal infusion medium See Part 2: Microorganism, Media

veal leg A wholesale cut of veal consisting of the area to the rear of the hip; sides may be split or unsplit

veal loaf A cooked meat specialty made primarily with veal and some pork

veal loaf, jellied Cooked veal, shredded and molded with gelatin and cooked in loaf or roll shape

veal rib back A wholesale cut of veal consisting of the unsplit ribs (fourth through twelfth rib)

veal shoulder See veal chuck

veal steak See Part 2: Braising Meat

vee See lip

vegans (pure vegetarians) A strict vegetarian diet; vegans will consume only plants (no animal source foods); purists will eat only raw plants

vegetable A botanical organism or species of any type, including trees, shrubs, grasses, etc. In common usage, any plant used for food by humans or animals.

Average 25 calories per serving

USDA grades for canned, frozen, or dried:

US Grade A

US Grade B

US Grade C

USDA grades for fresh:

US Fancy

US No. 1

US No. 2

16 ounce can (most vegetables) = 3–4 servings

See Part 2: Ascorbic Acid; Calcium; Calcium, Daily Recommendations; Calories, Daily Recommendations; Food, Composition; Food Guide; Frozen Food Storage; Fruit and Vegetables Composition; Fruit and Vegetable, Diseases; Frying Time; Glutamate; Iron, Daily Recommendations; Microwave Cooking, Fresh Vegetables; Microwave Cooking, Frozen Vegetables; Microwave Processing Time; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Moisture in Biological Materials; Mold, Food; Nicotinic Acid, Food; Nitrate, Vegetables; Nutrients in Crops; Organic Acids in Fruit and Vegetables; Portion Size; Potassium-Rich Foods; Riboflavin, Food; Rot Spoilage; Soups, Composition; Standards, Processed Fruit and Vegetable Products; Storage Times; Thiamin, Daily Recommendations; Thiamin, Food; Vegetable Boiling; Vegetable Composition; Vegetable Cooking, Frozen; Vegetable Frozen Yield; Vegetable Plants; Vegetables, Boiling Time, Frozen; Vegetables, Canning Dates; Vegetables, Canned Grade; Vegetables, Classification; Vegetables, Cooking Frozen; Vegetable Servings; Vegetables, Panned; Vegetable Storage; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields; Vitamin A, Daily Recommendations; Vitamin A, Food

vegetable beef, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	4.6	94.2
Protein (%)	18.9	1.2
Fat (%)	7.2	0.4
Carbohydrate (%)	51.7	3.2
Fiber (%)	1.0	0.06
Ash (%)	17.5	1.1

vegetable black Vegetable charcoal

vegetable, chunky, canned soup

Composition (ready-to-serve): moisture 87.6%; protein 1.5%; fat 1.5%; carbohydrate 7.9%; fiber 0.5%; ash 1.5%

vegetable coloring Coloring obtained from natural vegetables; commercially available in both liquid and paste forms; e.g., green—spinach; red or pink—beet

vegetable, cream of, soup

Composition	Dehydrated	Prepared with water
Moisture (%)	2.9	91.2
Protein (%)	8.0	0.7
Fat (%)	24.1	2.2
Carbohydrate (%)	52.1	4.7
Fiber (%)	0.6	0.05
Ash (%)	12.9	1.2

vegetable crispier See hydrator

vegetable, dehydrated Maximum moisture level 14–20%

vegetable fat Naturally occurring or refined and processed fat from any vegetable or plant source; may be edible or inedible

cooking, 1 tbsp = 110 calories

See Part 2: Fats and Oils, Composition; Oils and Fats Composition; Saturated Fatty Acids

vegetable flakes, dehydrated A blend of celery, green sweet pepper, onion, parsley, and red sweet pepper

vegetable, frozen Common package sizes (ounces): 8, 9, 10, 12, 16, 24, and 32 (large plastic bags)

vegetable gelatin See agar-agar

vegetable gold See saffron

vegetable grade

Fresh:

US Fancy—uniform shape, few defects, premium quality, limited supply

US No. 1—good quality, most abundant, most popular, tender, fresh, good color, relatively free of bruises and decay

US No. 2

US No. 3

See fruit grade

vegetable juice 1) Juice extracted from various vegetables in a water solution. Can be used as a natural food additive to color food; in contrast to vegetables, is low in fiber content. 2) Freshly squeezed juice from uncooked vegetables used as a beverage

Types available:

Unmixed (pure)

Blends—two or more vegetable juices

Mixtures—vegetable juice and fruit juice

Vegetables often used include beets, cabbage, carrots, celery, lettuce, parsley, spinach, tomato, and sauerkraut

vegetable juice cocktail Juices of tomato, carrots, celery, and parsley, seasoned with salt

vegetable marrow (*Cucurbita pepo*) A summer variety of squash.

Types:

Avocadella

Cocozelle

Courgettes

Vegetable spaghetti

Zucchini

See marrow; salsify

vegetables, mixed See Part 2: Vegetable Composition, Part I

vegetable oil An oil obtained from plants containing one or more fatty acids; many types are edible and are used as food and for cooking; 440–460°F smoke point for hydrogenated oil; e.g., coconut, corn, cottonseed, peanut, safflower, soybean, sunflower.

$\frac{7}{8}$ cup, vegetable oil = 1 cup, butter for shortening

Composition: sodium 0 mg

See salad oil

See Part 2: Tocopherols

vegetable oyster See salsify

vegetable peach See mango melon

vegetable pear (chayote; christophine) A 6-inch, green, spiny, ribbed, pear-shaped vegetable with firm white flesh that grows on a vine See chayote

vegetable seed Kernel of plant that can be sowed to reproduce the plant; storage: 32–40°F, 50–65% relative humidity

vegetable shortening A fat from plants; used for cooking; 420–440°F smoke point.

Storage: hydrogenated type—covered at room temperature; unopened—room temperature; opened—refrigerate

vegetable spaghetti A summer squash grown (110 days) like a marrow squash; 25–45 cm fruit borne on a trailing growth. When the whole squash is boiled 30 minutes, the inside can be removed as long strands that look and taste somewhat like spaghetti but are low in calories. 180 seeds per ounce

vegetable tanning Converting hides and skins into leather by treatment with tannins derived from plants, e.g., quebracho, wattle, etc. See also tanning

vegetable, vegetarian, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	84.9	92.3
Protein (%)	1.7	0.9
Fat (%)	1.6	0.8
Carbohydrate (%)	9.8	5.0
Fiber (%)	0.4	0.2
Ash (%)	2.0	1.0

vegetable with beef broth, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	83.3	91.5
Protein (%)	2.4	1.2
Fat (%)	1.6	0.8
Carbohydrate (%)	10.7	5.4
Fiber (%)	0.5	0.3
Ash (%)	2.1	1.0

796 vegetable with beef, canned soup

vegetable with beef, canned soup

Composition	Condensed	Condensed, prepared with water
Moisture (%)	83.7	91.6
Protein (%)	4.4	2.3
Fat (%)	1.5	0.8
Carbohydrate (%)	8.1	4.2
Fiber (%)	0.2	0.1
Ash (%)	2.2	1.2

vegetable yield See Part 2: Vegetable Yields

vegetarian A person who does not eat any animal food and consumes only products of the vegetable kingdom; some will eat butter, eggs, and milk, because these involve no slaughter; others will eat fish; some will also exclude underground roots and tubers; a few will not eat cooked foods

vegetarian, lacto Eat dairy products as well as plant foods. Many Seventh-Day Adventists practice this type of vegetarianism

vegetarian, lacto-ovo Consume eggs, dairy products, and plant foods

vegetative cell See Part 2: Thermal-Death-Time Curve

vein Vessel that conveys blood to the heart

veioipylsa A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned beef and pork made with pork fat added and stuffed into artificial casings

veitchberry A hybrid of blackberry and raspberry. A fruit similar to loganberry

velometer An instrument used to measure air flow or draft and suction

veloute A rich, white sauce

velpolicella An Italian wine produced in the area between Lake Garda and Lake Verona (northern Italy)

velva fruit An ice cream with a very smooth texture

velvet bean (*Mucuna pruriens*) A perennial legume used for animal feed and green manure; 1.8 pounds per quart; 60 pounds per bushel. Dry seeds are used as a pulse.

Varieties: bunch, osceola, speckle

velvet bean caterpillar A worm that eats the top leaves of soybean plants. A peanut pest

velvet bent (*Agrostis canina*) A grass sometimes used on putting greens

velvetgrass See Part 2: Seed, Germination

velvet spirit See silent spirit

venaco A salty, square-shaped, blue cheese made from sheep's or goat's milk

venae cavae The three large main veins taking blood to the right auricle of the heart

venalainsa meetwurst A salami made from coarsely chopped beef and pork and sometimes horsemeat

vendace (*Coregonus albula*) A food fish

vendome A soft, thick, cylinder-shaped cheese made from cow's milk with rennet added

vendor A company or individual that supplies goods or services

vendor lead time The time that elapses between the time an order is received by a supplier and production of the material

vendor scheduling A purchasing approach that provides vendors with schedules rather than individual purchase orders

veneto A hard, dry, sharp, bitter-flavored, grating cheese made from cow's milk

veneto salami A dry, uncooked, unsmoked Australian sausage (chorizo) made from medium chopped, heavily seasoned (red wine, crushed peppercorns), beef and fermented and stuffed into artificial casings

Venezuelan tachiras Rich and flavorful smooth coffee with a fine aroma

venezza See veneto

venison The flesh of deer

See Part 2: Animal Foods, Composition; Minerals, Food

vent Opening in a retort used to eliminate air during the venting period

ventral Belly; stomach; opposite of dorsal

ventricle Lower chambers of the heart, called right and left ventricle

verana A fruit liqueur

verbena (*Verbena officinalis*) A plant whose pale green leaves contain aromatic lemon-flavored oils
See Part 2: Essential Oils

verdicchio A straw-colored, dry wine, made from Verdicchio grapes and placed in an amphora-shaped bottle; grapes grown in east central Italy

verduzzo A white, Italian wine

verjuice An acid juice from crab apples or unripe grapes used as a drink or for culinary purposes

vermicelli (angel hair; extra thin spaghetti) A macaroni product, cord-shaped, not tubular and not more than 0.06 in. in diameter. Fine spaghetti and cheese; egg yolks and saffron are often added in the manufacture; sometimes up to 20 strands are twisted together See also spaghetti

vermiculite A hydrated metallic silicate that expands on strong heating. Used as feed additive, insulation, soil conditioner, and to improve drainage. Can hold 2-3 times its weight in water
See Part 2: Insulation

vermifuge A substance used to destroy or expel worms

vermillion snapper A light meat, light to moderate flavor, finfish

Vermont cheese A smooth, off-white, sharp, aged, cheddar cheese that has a black waxed rind; sometimes flavored with caraway or sage

vermouth (vermuth) A fortified spice- and herb-flavored wine. An alcoholic beverage; wine base; sweetened with sugar syrup (3-20% sugar); fortified with brandy; flavored with aromatic herbs; 14-20% alcohol by volume.

Types:

French—light, dry

Italian—dark, sweet

vermouth bottle 30 ounces

Vernaccia A dry, appetizingly bitter, Sardinian aperitif wine made from Vernaccia grapes

Vernaccia di San Gimignano A dry, white wine produced in west central Italy

vernier (caliper) An auxiliary scale used to obtain fine adjustment or measurement

veronique A meat or seafood dish with white grapes

verseworst A moist, uncooked, unsmoked Dutch "fresh sausage" made from medium or coarsely chopped beef and pork and stuffed into pork casings

vertebrae The bones of the spinal column

	Cervi- cal	Tho- racic	Lum- bar	Sacral	Coccygeal or Caudal
Camel	7	12	7	4	15-18
Cattle	7	13	6	5	18-20
Deer	7	13-14	6	5	18-20
Goats	7	13	6	5	18-20
Horse	7	18	6	5	18-20
Pig	7	14-16	6-7	4	14-23
Rabbit	7	12	7	3	7
Sheep	7	13	6-7	4-5	16-20

See Part 2: Bone

vertical integration A situation where two or more firms at different stages of production and processing-marketing combine under a single management

vertical neck ring seam The vertical mark on the glass neck surface of a container caused by joining two parts of the neck ring when the container was made

verticillium wilt 1) A fungus (*Verticillium albo-atrum*) disease that affects the roots of apricot, blackberry, cherry, nectarine, peach, plum, raspberry, strawberry, tomato, and many common plants and weeds. Causes branches to wilt starting at base. Fumigation of the soil is a possible method of prevention. 2) Soil-borne fungus affecting raspberries in northern U.S. and Pacific coast areas. Leaves turn yellow and wither; symptoms develop first on lower leaves and continue up the cane until the entire cane turns blue and dies

Control: Change plots every year or plant one of the wilt-free resistant varieties in clean soil. Do not plant in areas where there has been a problem and keep plants healthy. Rotate raspberries with other crops

vertisols Dark gray and black heavy clay soils of the subtropics and tropics

vervain (herb of good omen) An herb used for medical purposes

vesicular Glands on either side of the ampullae that secrete a fluid that supplies energy for sperm cells

vesiga A fish gelatin obtained from the spinal marrow of the sturgeon

vetch (tare; Vicia spp.) An annual leguminous grass; in some areas seeds are used as food

Species:

Common—*Vicia sativa*

Hairy—*V. villosa*

Hungarian—*V. pannonica*

Monantha—*V. articulata*

Narrow leaf—*V. angustifolia*

Purple—*V. atropurpurea*

Wollypod—*V. dasycarpa*

Used for green manure crop (plant in spring and turn under in fall), pasture, hay, silage; seeding 60 pounds per bushel; 25 pounds per acre See **pea, grass**

See Part 2: Seed, Germination

vetchling See **pea, grass**

vetiver oil (vetivert) A thick essential oil obtained from roots of East Indian grass

See Part 2: Essential Oils

vezelay A goat's milk cheese

VFA Volatile fatty acids

vial A small, thin walled, glass container or bottle, used chiefly for drugs, medicine, or samples

Vibrio See Part 2: Spoilage, Protein Foods

Vibrio parahaemolyticus A food-poisoning bacteria found in seafood; destroyed by pasteurization. Implicated foods 1×10^7 per gram

vibriosis An infective organism causing abortion during first 6 months of gestation. Condition that causes the placenta to deteriorate

vic-en-bigorre A soft, cow's milk cheese

vichy 1) A mineral water from France. 2) An effervescent, carbonic acid water. 3) A carrot and cream garnish

vichyssoise A potato soup containing chicken broth and onions (leek); served cold

Victoria cheese A cream cheese

Victoria hog A breed of small hogs of combined blood of Berkshire, Chester White, Poland China, and Suffolk

victual Food for human consumption

victus Diet, food

vicugna (vicuna) A ruminant animal similar to the llama that measures about $2\frac{1}{2}$ feet to the shoulder; native to South America

Vidalia onion A yellow, hybrid granex grown in a specific area of Georgia

vidonia A dry, tart, fruity, golden, Madeira wine

vienesa A moist, cooked, unsmoked Mexican sausage made from finely chopped, mildly seasoned beef and pork and stuffed into artificial casings

Vienna bread An oval-shaped, crusty loaf of French bread made by adding milk when the bread is kneaded

Vienna roast (New Orleans roast) See **coffee**

Vienna sausage Lightly smoked frankfurters often canned in a weak brine. A moist, cooked, smoked or unsmoked American sausage made from finely chopped, mildly seasoned beef, pork, and veal and stuffed into pork, sheep, or artificial casings and canned in vinegar, water, or various sauces. Available in medium to large diameter links or large diameter casings for slicing or cocktail type, 2 inch sausages packed in cans in water or brine.

Composition: moisture 60%; protein 10.3%; fat 25.2%; carbohydrate 2%; ash 2.5%; sodium 152 mg per link (16 ounces)

See **frankfurter**

See Part 2: Meat Composition; Sausage Identification; Sausage, Types

798 Viennese frankfurters

Viennese frankfurters A moist, cooked, smoked or unsmoked Australian sausage made from finely chopped, mildly seasoned, beef, lamb, and pork and stuffed into pork or sheep casings

vieux thibar A white or red wine

vignals gaufrettes A cracker

villi A thick, ropy, fermented, low-medium acid, cow's milk; contains mold

Viking A variety of birdsfoot trefoil *See also* trefoil

village bread A flat bread made from 97-100% extraction, whole meal, wheat flour

villalon A high-fat, soft, 500 g-2.5 kg, milk cheese; usually consumed fresh

villany A red wine

villebaron A soft cheese made from cow's milk

villedieu A cow's milk cheese

villeroi (villeroy) Food mixed with mushrooms or truffles and bread crumbs and deep-fat fried

villi Projections in the inside of the small intestine; small fingerlike protrusions that increase surface area and absorption ability

vimba (Vimba vimba) A food fish found in the Baltic, Mediterranean, and Caspian Seas

vinaigrette Sauce or dressing made from oil, pepper, salt, and vinegar. Many variations of additional seasoning or herbs

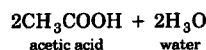
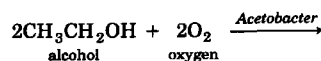
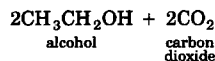
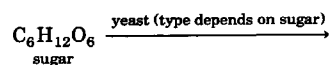
vinaigrous Sour

vinarpylsur A moist, cooked, smoked Icelandic sausage made from finely chopped, medium seasoned, beef and lamb with pork fat added and stuffed into sheep or artificial casings

vinasse Residue of beet sugar or wine manufacturing

vine The stem of a plant that requires support to stay off the ground, e.g., grape vine (*Vitis vinifera*)

vinegar A sour solution produced by exposing an alcoholic liquid to air; a surface film appears, and the alcohol is oxidized to acetic acid by *Acetobacter* organisms. Film is a viscous gelatinous Zooglea containing a large number of organisms. Dilute acetic acid solution (3.24-9.96 grams per 100 milliliters); made from fruit or grain (in United States from cider only); min. 4% by weight of absolute acetic acid; acetic acid (4-12%) solution; sp. gr. 1.013-1.024. Made by double fermentation.



Min. 4 grams acetic acid in 100 milliliter solution

100 grains = 10% acetic acid

125 grains = 12.5% acetic acid

Class name for:

Apple vinegar

Cider vinegar

Glucose vinegar

Malt vinegar

Spirit vinegar

Sugar vinegar

Wine vinegar (grape vinegar; from distilled grain alcohol)

Herb flavored

Fine herb (chive, oregano, parsley, peppercorn, rosemary, shallots, thyme)

Garlic-basil

Lemon-mint

Oregano-lemon

Tarragon-dill

To make 50 grain vinegar from 500 gallon (gal) of 120 grain vinegar

$$\frac{500 \text{ gal} \times 120 \text{ grain}}{50 \text{ grain}} = \frac{60,000}{50}$$

$$= 1,200 \text{ gal of 50 grain vinegar}$$

$$1,200 \text{ gal} - 500 \text{ gal} = 700 \text{ gal water to add}$$

$$700 \text{ gal water} + 500 \text{ gal 120 grain vinegar}$$

$$= 1,200 \text{ gal 50 grain vinegar}$$

pH range 2.3-3.4; white distilled vinegar pH 2.3-2.6; cider vinegar pH 3.0-3.3

Use: seasoning; used to lower pH of salad dressings.

Wine vinegars are milder than white vinegars.

1 cup = 8.4 ounces

Composition: moisture 94-95%; trace protein; fat 0%; carbohydrate 5-6%; ash 0.3%; pH 2-3.4; sodium 1 mg per 0.5 cup (120 grains)

Composition	Cider		White distilled	
	1 lb	1 gal	1 lb	1 gal
Kilocalories	64	538	54	454
Moisture (%)	94	94	93	93
Protein (g)	trace	trace	—	trace
Fat (g)	0	0	0	0
Carbohydrate (g)	26.8	225	22.7	192
Fiber (g)	0	0	0	0
Minerals (mg)				
Na	55	462	5	42
K	454	3800	68	571
Ca	27	227		
P	41	344		
Mg	—	—	trace	trace
Fe	2.7	22.7	—	—

Up to 75 grain—8.40 pounds per gallon

76-125 grain—8.45 pounds per gallon

126-175 grain—8.50 pounds per gallon

176-225 grain—8.55 pounds per gallon

226-275 grain—8.6 pounds per gallon

276-325 grain—8.65 pounds per gallon

326-375 grain—8.70 pounds per gallon

376-425 grain—8.75 pounds per gallon

See acetic acid; apple vinegar; corn sugar vinegar; distilled vinegar; fermented vinegar; grain (vinegar); grape vinegar; malt vinegar; mother; sugar vinegar; tarragon vinegar

See Part 2: Herb Vinegars; Minerals, Food; Spoilage, Carbohydrate Foods; Vinegar, Spiced

vinegar cured fish See **acid cured fish**

vinegar, powdered Vinegar added to dextrin or modified food starch

vine leaves See **grape leaves**

viner A machine used to separate peas from pea plants

vine vegetables Examples are cucumber, gourd, muskmelon, pumpkin, squash, watermelon

vineyard A field of grape vines

vineyard dressing A dressing made with claret, garlic, olive oil, paprika, salt, tabasco sauce, and yogurt

vinho verde Red or white carbonated wine made from the juice of just ripe grapes

viniculture The science of the production of grapes for wine

vinjak Brandy distilled from fermented grapes

vinometer (oenometer) An instrument used to measure alcohol in wine

vino nobile di Montepulciano A dry, red wine produced in west central Italy

vino santo A dessert wine

vinosity Wine with a grapey bouquet

vintage Fruit or wine of any given season

vinyl The $\text{CH}_2=\text{CH}-$ group

vinyl can coating A coating that is tough and free from off-flavors. Good for low-temperature pasteurized foods that are sensitive to metals

vinylidene chloride ($\text{CH}_2=\text{CCl}_2$) The monomer from which polyvinylidene chloride is made. The latter is used as a plastic film in heat-shrinkable bags and as an oxygen barrier in food packaging

vinyl resins Resins made from vinyl acetate

($\text{CH}_3\text{COOCH}=\text{CH}_2$)

and vinyl chloride ($\text{CH}_2=\text{CHCl}$) or other modified vinyls

violet A flower that is candied for food or garnish

Violet No. 1 An FD & C dye formerly used for meat inspection stamps; FDA prohibited its use in 1973

violet-red bile agar A solid medium for coliform testing

See Part 2: Microbiological Examination of Dairy Products; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

Virginia date plum See **persimmon**

Virginia ham A country ham coated with pepper See **Smithfield ham**

virginiamycin A drug to promote growth, improve feed efficiency, and treat dysentery

virgin olive oil (sublime olive oil) Edible olive oil made from hand-picked ripe olives and extracted by using moderate pressure

virgin wool Wool that has never been used in fabrics

virulence The capacity of a given strain or pure culture of a species to produce a disease

virus A parasitic type of infectious agent composed of proteins and nucleic acids. They are not actual organisms, because they do not metabolize nutrients or utilize oxygen. Replicates or reproduces only within a living host cell and diverts the metabolism of the host cell to reproduction of viral particles. Only visible by electron microscope. DNA or RNA in a protein capsid (covering); usually spread by minute traces of contaminated material; usually highly contagious

viscera The internal organs of slaughtered animals. All the organs of the great body cavity excluding the contents of the intestinal tract; intestines; bowels

visceral muscle Involuntary, nonstriated muscle of the intestinal tract type

viscogen A mixture of lime (CaO), sugar, and water used as a thickening agent for whipping cream

viscometer (viscosimeter) An instrument for measuring viscosity

viscose Regenerated cellulose

viscosimeter A gravity device for measuring viscosity by measuring the length of time for a liquid to pass through an orifice See **viscometer**

viscosity A measure of the tendency for relative motion of the molecules within a fluid, or its internal resistance to flow. Degree of fluidity or ability to flow; property of a fluid to resist flow; fluidity. Increased viscosity in fats is caused by breakdown, polymerization, oxidation, gumming, and foaming

viscous Sticky; gummy; resistant to deformation or flow; thick

vishnevaia A cherry brandy made from vodka

vishnyovka A cherry-flavored vodka

visible light That portion of the electromagnetic spectrum that is perceived as light

See Part 2: Waves, Energy-Producing

vital wheat gluten Wheat gluten processed to retain its viscoelastic properties. Used in bakery and breakfast foods

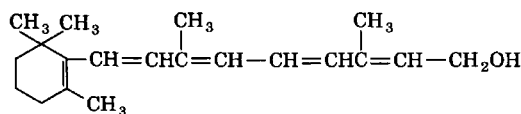
vitamin An organic compound that is necessary in the diet but is required only in minute amounts for normal functioning of the body. Dietary constituents essential in small quantities to maintain life; they are governors and regulators of life-sustaining processes. They are produced by plants and animals in nature; most have been synthesized

See Part 2: Cereal Enrichment; Cereal Fortification; Cereals, Vitamin and Mineral Content; Cheese, Vitamin Content; Egg Products, Nutritive Value; Vitamin Retention, Meat; Vitamins; Vitamin Sources, Functions, and Stability; Wheat, Parts of Grain, Vitamins; Wheat Products Composition; Wheat, Vitamins

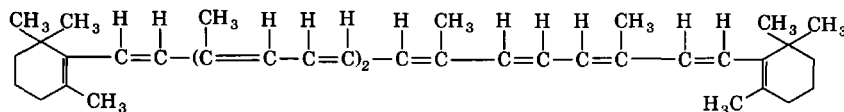
vitamin A (retinol) ($\text{C}_{20}\text{H}_{29}\text{OH}$) A fat-soluble vitamin; a high molecular weight alcohol; physiological function: growth-promoting, prevents drying of mucous membranes, essential to reproduction, plays a role in night vision; young mammals are born with

800 vitamin A (retinol)

limited amounts of vitamin A



vitamin A₁



β carotene

Good sources: apricots, fish liver oil, milk and milk products, egg yolk, liver, green and yellow vegetables, oranges, peaches, sweet potatoes, tomatoes

Poor sources: cereal grain (except yellow corn)

Vitamin A usually occurs in nature as a provitamin in the form of α -, β -, γ -carotene or cryptoxanthin, which is converted in the animal body (liver) to vitamin A. 1 mg of carotene = 400 I.U. of vitamin A.

Necessary for: function of sweat glands, nerve tissue, and receptor cells of sense organs; used as a nutrient or dietary supplement, food additive for milk, margarine, and cereals, and used to maintain or improve nutritional value.

Vitamin A occurs only in foods of animal origin; however, plants contain a substance called carotene that the body can convert to vitamin A.

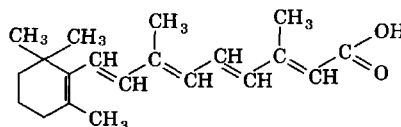
- 1 I.U. (or USP) vitamin A
 - = 0.3 mg vitamin A alcohol (retinol)
 - = 0.344 mg vitamin A acetate
 - = 0.55 mg vitamin A palmitate
 - = 0.6 mg beta carotene

Toxic if taken in doses over 100,000 units per day for several months

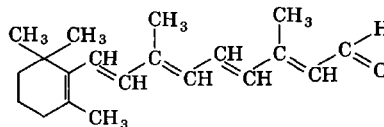
Storage: tight container in the dark

See Part 2: Beans, Peas and Nuts; Cereal Fortification; Cereals, Vitamin and Mineral Content; Cheese Composition; Composition of Food; Dairy Products, Composition; Egg Composition; Egg Products, Nutritive Value; Fats and Oils, Composition; Fish and Shellfish Composition; Food, Composition; Food Guide; Fruit and Vegetables Composition; Fruit Composition; Grain Products Composition; Lemon Juice Composition; Macaroni and Noodles Composition; Meat Composition; Meat, Nutritive Value; Milk Composition; Olives and Pickles, Composition; Plant Foods, Composition; Poultry Composition; Recommended Daily Dietary Allowance; Sausage Composition; Soups, Composition; Sugars and Sweets Composition; Sweet Potato Nutritive Value; Tomato and Tomato Products, Composition; Variety Meat Percentage of Daily Recommended Allowances; Vegetable Composition; Vitamin A; Vitamin A, Daily Recommendations; Vitamin A, Fish; Vitamin A, Food; Vitamin A, Milk and Milk Products; Vitamins; Vitamin Sources, Functions, and Stability

vitamin A acid A compound in which an acid group replaces the alcohol group on the common vitamin A formula:



vitamin A aldehyde A compound in which an aldehyde group replaces the alcohol group on the common vitamin A formula:



vitamin B₁ See **thiamin**

vitamin B₂ See **riboflavin**

vitamin B₃ See **niacin; niacinamide; thiamin(e)**

vitamin B₅ See **pantothenic acid**

vitamin B₆ See **pyridoxine**

See Part 2: Beef Percentages of Daily Recommended Allowances; Cereal Fortification; Cereals, Vitamin and Mineral Content; Cheese, Vitamin Content; Lamb Percentages of Daily Recommended Allowances; Meat, Nutritive Value; Milk and Milk Products, Vitamin Content; Milk Composition; Pork, Percentages of Daily Recommended Allowances; Recommended Daily Dietary Allowance; Variety Meat Percentage of Daily Recommended Allowances; Vitamins

vitamin B₁₂ (animal protein factor; cobalamin; cyanocobalamin) (C₆₃H₉₀CoN₁₄O₁₄P) A cobalt-containing member of the B complex; it is involved in anemia and growth; used in treatment of nerve disorders, e.g., tic douloureux

Sources: variety and muscle meats

See Part 2: Beef Percentages of Daily Recommended Allowances; Cereal Fortification; Cereals, Vitamin and Mineral Content; Cheese, Vitamin Content; Egg

Products, Nutritive Value; Lamb Percentages of Daily Recommended Allowances; Meat, Nutritive Value; Milk and Milk Products, Vitamin Content; Milk Composition; Pork, Percentages of Daily Recommended Allowances; Recommended Daily Dietary Allowances; Variety Meat Percentage of Daily Recommended Allowances; Vitamins; Vitamin Sources, Functions, and Stability

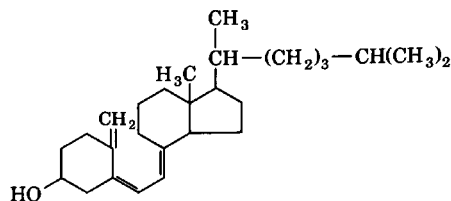
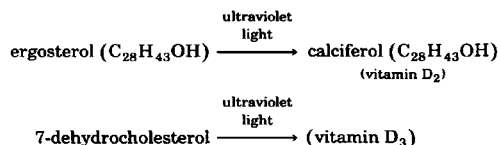
vitamin B₆ See folic acid

vitamin B complex A large and closely interrelated group of water-soluble vitamins, each of which is different from the others; no one member of the group can replace any other. Among them are: B₁₂, nicotinic acid, pyridoxine, riboflavin, and thiamin

vitamin C (ascorbic acid; cevitamic acid) A food nutrient, antioxidant and preservative. Essential for blood vessels, bones, and teeth; deficiency causes scurvy; cannot be synthesized by the body. Available in citrus fruit See ascorbic acid

See Part 2: Ascorbic Acid; Food Guide; Meat, Nutritive Value; Sweet Potato Nutritive Value; Vitamin C

vitamin D (activated ergosterol; sunshine vitamin) A fat-soluble vitamin; it regulates calcium and phosphorus metabolism and therefore protects against a disease of the bones called rickets. Essential in bone and teeth building (proper absorption of calcium from intestinal tract). Vitamins D, D₂, and D₃ are food additives added to milk or cereals to maintain or improve nutritional value.



vitamin D₃ (activated 7-dehydrocholesterol)

Added to cereals, milk, and flour; used as a nutrient or dietary supplement

Storage: tight container in a cool, dark place

Food sources: butter, fish liver oils, egg yolk, irradiated + vitamin D-fortified foods, vitamin D-fortified foods, sunshine

0.025 mg calciferol = 1 I.U.

1 I.U. of vitamin D = 0.025 mg cholecalciferol (D₃) = 0.025 mg ergocalciferol (D₂)

See Part 2: Cereals, Vitamin and Mineral Content; Dairy Terms; Egg Products, Nutritive Value; Milk Composition; Recommended Daily Dietary Allowance; Vitamin D, Fish; Vitamin D, Food; Vitamins; Vitamin Sources, Functions, and Stability

vitamin E (X) Tocopherol; a fat-soluble vitamin that functions in promoting reproduction and growth; vitamin E activity in food is in the form of α-, β-, and γ-tocopherol. Acts as an antioxidant for fats and retards rancidity

1 mg dl-α-tocopheryl acetate = 2 I.U.

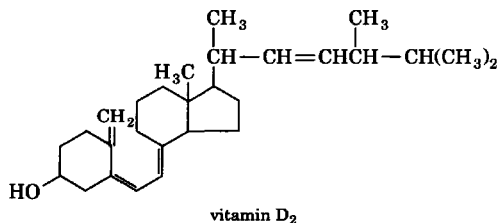
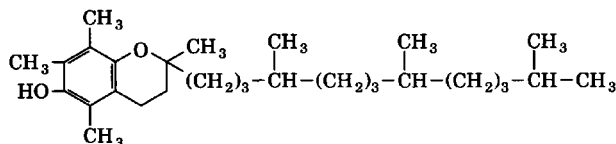
1 mg dl-α-tocopheryl (alcohol) = 1.1 I.U.

1 mg d-α-tocopheryl acetate = 1.36 I.U.

1 mg d-α-tocopheryl (alcohol) = 1.49 I.U.

Sources: egg yolk; embryos of most seeds; lettuce; meat; milk; spinach; vegetable oils; wheat germ oils

See Part 2: Cereal Fortification; Cereals, Vitamin and Mineral Content; Egg Products, Nutritive Value; Milk



vitamin D₂

Used as a nutrient or dietary supplement.
Storage: tight container in a dark, cool place

and Milk Products, Vitamin Content; Recommended Daily Dietary Allowance; Vitamins; Vitamin Sources, Functions, and Stability

vitamin E acetate Added to food as a source of vitamin E

vitamin F Name once applied to essential unsaturated fatty acids (linoleic, linolenic, arachidonic); also applied to vitamin B₁

vitamin G See riboflavin

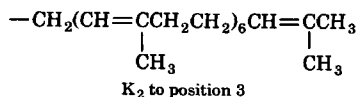
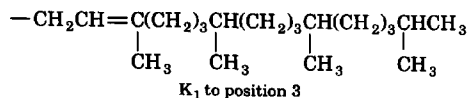
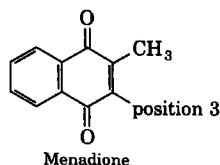
vitamin H See biotin

vitamin K A fat-soluble vitamin that functions in the clotting of blood

Sources: green plant tissues, soybeans, vegetable oils

802 vitamin K₁

vitamin K₁ (C₃₁H₄₆O₂)



1 mg vitamin K₁

= 0.3 mg menadione

= 0.5 mg menadione sodium bisulfite

See Part 2: Vitamins; Vitamin Sources, Functions, and Stability

vitamin L See **folic acid**

vitamin M See **folic acid**

vitamin PP See **niacin; nicotinamide**

vitamin supplement A vitamin or combination of vitamins (and/or minerals) consumed to protect against inadequate intake or for special dietary needs

vitamin U See **folic acid**

vitellin A phosphoprotein found in egg yolk

vitelline membrane See Part 2: Egg Structure

viticulture Vine culture; the science of growing grapes

vitmogelöst A camembert-type cheese made from cow's milk

vittoria A creamy, semisoft, mild-flavored cheese ripened by surface bacteria

vives cendre A soft cheese made from cow's milk and matured in wood ashes

vize A cow's milk cheese

VJ agar See Part 2: Microorganism, Media

vobla (Caspian roach) A Russian food fish

vodka A distilled alcoholic beverage made from rye (or grain) or potatoes; it has no aroma or taste and therefore can be mixed with any flavor. Clear, high alcoholic (normal proofs 80, 86, 90, 105, 107, and 110), clean, sometimes flavored, distilled spirit beverage

1 fluid ounce = 28 grams

1 fluid ounce, 80 proof = 63 calories

86 proof = 70 calories

90 proof = 73 calories

Vogel and Johnson agar See Part 2: Microbiological Media

Vogelbeer A brand of beer made from rowan berries

void 1) To cast out. 2) A soft to semisoft, strongly flavored, cheese made from cow's milk and ripened by surface bacteria

volaille Poultry

volatile A substance that will evaporate when exposed to normal temperature and pressure; vaporizable; readily evaporated

volatile fatty acid A fatty acid that can be removed from solution by steam distillation; these include acids with chain length through capric; most prevalent are acetic, butyric, and propionic

volatile oil A substance that will evaporate rapidly; the part that codistills with water in steam distillation; responsible for the aroma, odor, and flavor found in the aqueous distillation of organic compounds of pure spices or flavorings. Constituents of a product (and changes that occur during distillation) that are volatile in steam and after distillation provide the essential oil. Content of volatile oil is measured by mixing the material with water and heating until it vaporizes (simple distillation) and then condensing the oil and measuring

Volatile oil steam distilled (VOSD) See **Volatile oil**

vol-au-vent A pastry shell filled with a stew of meat and eggs and often other ingredients

volnay A red wine

volt (V; E; emf) Measurement of electrical potential (E; pressure); a potential of 1 volt will cause a current of 1 amp in a resistance of 1 ohm. Voltage between two points = $R_T I$ (R_T = total resistance, I = amperes).

1 volt = 1×10^8 abvolts, absolute

1 volt = 3.336×10^{-3} statvolts

volt, international

1 volt, international = 1.0003 volt, absolute, US

voltmeter An instrument for measuring voltage; should be connected in parallel

volt per inch

1 volt per inch

= 3.937×10^7 abvolts per centimeter

= 3.937×10^{-1} volts per centimeter

volume The space occupied by a body

Volume of a sphere = $\frac{4}{3}\pi r^3$
= $D^3(0.5236)$

Volume of right cylinder = $\pi r^2 h$

Volume of right cone = $\frac{1}{3}\pi r^2 h$

Gram molecular volume

= 22,412 cc at 0°C and 760 mm

See Part 2: Volume; Volumetric Solutions, Temperature Corrections

volumetric analysis An analysis in which results are based upon volume (usually the volume of a solution of known strength that reacts with the substance being analyzed)

voluntary muscle See **striated muscle**

vomiting Forcible expulsion of stomach contents through the mouth

vone A sorghum beer

voros A medium-bodied, pleasantly dry, red, Hungarian wine

vorosaru (red sausage) A moist, cooked, smoked Hungarian sausage made from medium seasoned beef and pork and stuffed into artificial casings

VOSD Volatile oil steam distilled *See* **volatile oil**

vosne romanee A red wine

vossakorv A moist, cooked, smoked Norwegian sausage made from coarsely chopped, heavily seasoned beef, lamb, pork, and goat and stuffed into beef casings

Votator A proprietary name for a heat-exchanger; in fat processing, a chilling machine that solidifies fat

that is subsequently removed by scraper blades. Equipment or process that adds air or gas and gives desired plasticity

vouvray A sweet or dry, sparkling, white wine

vranac A red wine

vrsac A white wine

vugara A white wine

vulnerable group A portion of the population prone to develop nutritional disorders

Vycor glass A proprietary name for a heat-resistant glass made of pure silica *See also* **hard glass**

W

W The symbol for the element tungsten

waadtlander bratwurst A moist, cooked or uncooked, unsmoked Swiss sausage made from medium-chopped, medium-seasoned beef and pork stuffed into pork casings

Wabash A variety of soybean

wacholder A gin; a schnapps-type spirit, similar to steinhager

wada A deep-fried cake or ball of spiced black gram (*Phaseolus mungo*)

wafer A thin cake, cracker, or pastry made from batter and baked (between hot plates); a crisp bread; diameter or cross section measurement greater than the length

19 chocolate wafers = 1 cup crumbs

22 vanilla wafers = 1 cup crumbs, finely crushed

waffle A thin cake made with pancake batter and cooked in a heated mold; made from flour (low gluten content and weak gluten quality) mixed with a liquid, a leavening agent, salt, eggs, and fat; more crisp than griddle cakes; sticking caused by the iron being too hot or cold or incorrect shortening content in the batter

See Part 2: Grain Products, Composition

waffle mix See **pancake mix**

wagashie See **fulani cheese**

wagon wheel Pasta shaped like a wagon wheel (1-in. diam) See **rotelle**

Wagyu A traditional Japanese breed of black beef cattle, often used to produce Kobe beef; represents approximately 30% of Japanese beef animals

wahe A sorghum beer

wahoo (peto) A food fish

waiwai A coarse porridge made from yam flour

wake A tart containing fruit, vegetables, or cheese

waldmeister An aromatic herb often used for flavoring beverages

waldo A soft, fresh cheese

Waldorf salad A salad made with diced apples, celery, lemon juice, lettuce, mayonnaise, and walnuts
See Part 2: Portion Size

Wallbanger, Harvey A mixed drink made from 1 oz vodka, $\frac{1}{2}$ oz liquor galliano, ice cubes to fill glass, and orange juice to fill glass (stirred)

walleye, blue A freshwater North American food fish of the perch family; a finfish with light meat and very light, delicate flavor

Blue (*Stizostedion vitreum glaucum*)

Pike (*S. vitreum vitreum*)

walleyed pike (Stizostedion vitreum) A freshwater, perchlike fish

walleyed pollack (Theragra chalcogramma) A black, saltwater fish See **Alaska pollack**

wallflower See Part 2: Essential Oils

walliser A semihard cheese that is made from cow's milk and has a full fruity flavor

walliskäse See **saanen**

walnut A tall tree raised for timber and nuts; walnut oil is extracted from the nuts and the nuts are used for desserts, baking, and confectionery.

Types:

Black walnut (*Juglans nigra*)

Variety—Thomas; early bearing and long-lived; grows to 50–75 ft; produces large nuts

English walnut, European walnut (*J. regia*)

Varieties—see table for old and new varieties and their characteristics

White walnut, butternut, (*J. cinerea*)—An American tree

Pickled walnuts are made from the green fruit before the formation of the inner shell

Walnut sizes: large; medium or fancy; baby

Grade	Sound kernels (%)	Light-colored kernels (%)
Top	90	60
Second	86	40
Third	82	25

Shelled walnut grades:

By size

Halves

Halves and pieces

Pieces

By color

Light halves—unbroken; uniform in size

Light ambers—50% halves, 50% pieces

Standard ambers—dark amber; mixed halves and pieces

English walnut varieties (for midwestern and eastern United States): Colby; Hansen; Lake; Metcalfe

Black walnut (refuse 74%):

1 lb, *pound* unshelled

= 3.5 oz nutmeats, shelled, chopped

= 0.75 cup

1 cup, chopped = 4.2 oz

English walnut (refuse 58%):

1 lb shelled = 2.6 lb unshelled

1 lb shelled, halves = $3\frac{1}{2}$ cups

1 lb unshelled = 7.5 oz, shelled

= 1.2–2 cups

1 lb shelled, chopped = 3.5 cups

1 cup, shelled, halves = 100 g (3.5 oz)

English (Persian) walnut variety	Danger of spring frost damage	Relative productivity	Kernel quality	Best adapted to
Carpathian—fast-growing tree (30–40 ft); hardy; produces large, paper-shelled nuts				
Old				
Eureka	Moderate	Good	Excellent	Cool
Franquette	None	Poor	Good	Cool
Hartley	Slight	Good	Good	Hot
Payne	Great	Excellent	Excellent	Cool
New				
Amigo*	Slight	Good	Fair	Cool
Chico*	Moderate	Good	Good	Hot
Gustine	Moderate	Excellent	Excellent	Hot
Lompoc	Moderate	Good	Good	Cool
Midland	Slight	Good	Good	Cool
Pioneer	Slight	Good	Fair	Hot
Pedro*	Slight to none	Good	Good	Cool
Serr	Moderate	Good	Excellent	Hot
Tehema	Slight to none	Excellent	Good	Hot
Viva	Moderate	Excellent	Excellent	Hot

*Good pollen producers for cross-pollination with other varieties

English walnut (continued)

1 cup, shelled, chopped = 120 g (4.2 oz)

1 half = 0.9 g

Composition (English walnut): moisture 3–4%; protein 15–21%; fat 59–64%; carbohydrate 15–16%; ash 2–3%; sodium 3 mg/cup (120 g)

Caloric content:

English walnut

6–7 halves = 80 calories

2 tbsp, chopped = 105 calories

Black walnut

2 tbsp, chopped = 100 calories

The wood is a good firewood [23×10^6 Btu/cord (20% moisture)], is medium-easy to start, is easy to split, and produces light smoke, good coals, and few sparks. *See also* **black walnut**

See Part 2: Beans, Peas, and Nuts; Fatty Acids, Fats and Oils; Flavor Ingredients, Taste and Flavor Type; Fruit and Nut Rootstock; Iodine and Saponification Values; Minerals, Food; Nut, Grades; Plant Foods, Composition; Protein Factors; Refractive Indices, Fats and Oils; Titer, Fats and Oils; Tocopherols; Unsaturated Fatty Acids; Walnut Varieties

walnut caterpillar The larva of a brown moth (approximately 2-in. wingspan); a black caterpillar (with white hairs) that raises both ends of its body when disturbed; up to 2 in. long; feeds in groups on the leaves and causes defoliation

walnut husk maggot A white or pale beige maggot (up to $\frac{1}{2}$ in. long) that is the larval form of a pale yellow fly with brown eyes, stiff brown hairs on its abdomen, and transparent wings with dark stripes; the maggot feeds in the husk of maturing nuts

walnut lace bug A fragile insect that resembles a fly, with lacy wings ($\frac{1}{4}$ in. long), and sucks plant juices

walnut oil A highly unsaturated oil obtained by hot-pressing dried walnut kernels; $d_{25^\circ} = 0.923$ *See also* **walnut**

walton A cheese made by mixing cheddar cheese with blue cheese, caraway, sage, and walnuts

wampi A small, yellow citrus fruit used in jam and drinks

wanelska A dry, uncooked, hot-smoked Polish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into beef casings

wan-fan Dinner

wara *See* **fulani cheese**

warangi A local gin distilled from sorghum beer

Warburg apparatus A small container and a manometer used to measure gas exchange during a reaction

Warden A pear that keeps well and is used in cooking

Warfarin ($C_{19}H_{16}O_4$) used as an anticoagulant and rodent poison

wari Yellow, dried balls (made from a cereal or legume) that are deep-fat fried

warmed-up Describes cattle on feed just long enough to begin to show effects of feed

warp 1) Threads that run lengthwise in a fabric. 2) A rich substance deposited on land by flood water

warranty A specific assurance made by the seller concerning the nature, quality, and character of the goods

warszawska A moist, cooked, unsmoked Polish sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into artificial casings

warszawski A provolone-type cheese made from cow's or sheep's milk

warwickshire A cheddar-type cheese

806 wasabi

wasabi A pungent Japanese horseradish

wasabi-zuki Pickled horseradish

wash Liquid obtained by fermenting wort with yeast

washed-curd cheese A type of cheddar cheese that is soft and moist

washing soda Hydrated sodium carbonate

washy Describes animals on new grass that does not make hard flesh

wasp An insect that varies widely in size; color, and general body structure; some are parasites, others predators

Benefits: Tiny parasitic wasps lay eggs in the (living) bodies of insects. Large predaceous wasps prey on caterpillars, paralyzing them (by stinging) and feeding them to the young wasps.

waste Unwanted or useless residue materials
See Part 2: Wastes, Agricultural and Industrial

wasting Depletion of essential cellular constituents resulting from prolonged food deprivation

wasty Having too much fat; describes a pauchy animal

water (H_2O or HOH) An inorganic liquid that is essential to life and growth and is contained in all living cells; it is colorless, tasteless, and odorless. In the body it is a medium of body fluids and a solvent for all products of digestion, carries body wastes, regulates body temperature by evaporation, and sustains the health of all cells.

Purification by	Amount of water	Water condition	
		Clear	Cloudy
Bleach solution*	1 qt	2 drops	4 drops
	1 gal	8 drops	16 drops
	5 gal	$\frac{1}{2}$ tsp	1 tsp
2% tincture of iodine	1 qt	3 drops	6 drops
	1 gal	12 drops	24 drops

*Containing 5.25% sodium hypochlorite

Sources for body: water consumed; water in food eaten; water from the breakdown of food

Water content: in the human body 65%; in blood 80%; in bone 10–40%; milk 87%; seeds 10–20%

Purified using liquid chlorine

Properties:

Boiling point—100°C (212°F)

Compressibility—very slight

Dielectric constant—81

Freezing point—0°C (32°F)

Dissociation constant (K_w) = 1×10^{-14}

Heat of fusion = 144 Btu/lb

= 79.7 cal/g

Heat of vaporization = 970 Btu/lb

= 539 cal/g

Specific gravity—1.00

Specific heat—1 calorie per gram-degree

Weight

Cold water—8.33 lb/gal

Hot water—8 lb/gal

Cold water:

1 ft³ = 62 $\frac{1}{2}$ lb

= 7.48 gal

= 1728 in.³

1 gal = 231 in.³

1 cup = 240 g (8.4 oz)

1 acre-inch = 27,154 gal

= 226,193 lb

Warm water (120–130°F):

1 gal = 8.34 lb

= 231 in.³

= 0.13368 ft³

1 ft³ = 62.43 lb

= 7.48 gal

= 0.028 tons

Average requirement for livestock:

Beef cattle—8–12 gal/day

Dairy cattle

dry—8–12 gal/day

In milk—35–40 gal/day

Horse—10–12 gal/day

Sheep—1–2 gal/day

Swine—1–2 gal/day

Human water use (in liters)

Average intake	Average loss
1–1.5 (drinking)	0.4–0.6 (lungs)
0.4–0.5 (in food)	0.4–0.7 (skin)
0.3–0.5 (oxidation of food)	0.08–0.1 (feces)
	0.3–1.8 (urine)
1.7–2.5 total	1.13–3.2 total

See also **moisture**

See Part 2: Food, Water Intake; Ingestion and Inhalation; Microbiological Media; Microorganism, Culture Media, Water and Sewage, Standard Methods; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant; Milk, Mammals, Composition; Olives and Pickles, Composition; Water Drinking Standards; Water, Hardness; Water, Weight and Volume

water (in sausage) Added to sausage in the following amounts:

Uncooked—not over 3% of total ingredients

water (%) = $4 \times \text{protein} + 3$

Cooked—not over 10% of total product in finished product

water (%) = $4 \times \text{protein} + 10$

Canned hams—not over 8% above green weight; bone, fat, and skin that were removed must be included in the weight so that the total does not exceed 108%.

water activity (a_w) A function defined by the ratio of the vapor pressure of a solution to the vapor pressure of the pure solvent; it is inversely proportional to the number of solute molecules and is the relative number of water molecules to the total number of molecules present, expressed as a decimal from 0 to 1. If you multiply the a_w by 1000, you will obtain the number of water molecules in every thousand molecules of the solution. If a food is in equilibrium (neither gaining or losing water) with air that

has a relative humidity of 91%, the food would have $a_w = 0.91$; a_w of blood = 0.995

Water activity of various organisms:

Clostridium botulinum—0.95 min. a_w

Most spoilage bacteria—0.91 min. a_w

Yeast—0.88 min. a_w

Molds—0.80 min. a_w

Most foods in a cool climate for a few months—0.75 min. a_w

Most foods in tropical climate—0.70 min. a_w

Inhibition of all microorganisms—0.60 min. a_w

Knowledge of water activity is used in food preservation; water activity may be lowered in food by adding salt, sugar, or alcohol and by freezing, e.g., as in the following:

Alcoholic beverages

Candies, cookies, cake

Cream candies

Freezing

Fruitcake

Jams and jellies

Preserves

Salt-curing of meat and fish

Sugared fruit

Syrup

Wines, liqueurs

A measure of free water in a product:

$$a_w = \frac{\text{water-vapor pressure of substance}}{\text{vapor pressure of pure water at same temperature}}$$

See Part 2: Water Activity, Organisms and Food

water-added Describes cured and smoked pork that weighs up to 10% more than the fresh meat due to added water from the curing solution. See **ham, cured**; **water (in sausage)**

water-binding properties A term used in sausage manufacturing to indicate the ability of a product to retain moisture under elevated temperatures

water biscuit A thin, crisp cracker made of flour, water, and sometimes fat

water blister See **black rot**

water buffalo (*Bubalus bubalis*) An Asiatic buffalo often used for draft purposes; water buffalo's milk has higher butterfat (10–15%) content than cow's (*Bos*) milk; used to make mozzarella cheese

Types:

River—coiled or drooping horns

Swamp—backswept horns

Characteristics:

Begin work—18 months

Dressing percentage—30% poor condition; 50% good condition

Females come into heat—12–18 months of age

Gestation period—287–340 days

Life span—18–25 yr

Pulling speed—1.75 mi/h

Usually breed—24 months of age

Will not cross with cows (*Bos* spp.)

See **Kiangsu**; **Kwangtung**; **Tangyang**; **Wuchu**

Water chestnut (caltrop; *Trapa natans*) A water plant of which the edible seeds (bulb-shaped, 1–2-in. diam., 3–4 angled sides) are used as food (canned,

boiled, raw, roasted), has a floury texture (like a raw potato) and an agreeable flavor (sweet), and is often used like cornstarch; a golf-ball-sized, crisp vegetable with a brown skin covering a white nutlike center; available canned (cleaned and peeled)

Types:

Chinese (*T. bicornis*)—also called ling; seed used for food and as flour

Horse's hooves—used fresh; reddish brown

Jesuit's nut (*T. natans*)

Singhara nut (*T. bispinosa*)—seed used for food

Used as a vegetable in Chinese cooking; often used for chop suey and oriental dishes; can be ground into meal and is often added to soups

Storage: refrigerator, for up to 1 week

See also **Chinese water chestnut**

water coconut See **palm**

water core A physiological disease of apple and pear fruit that causes the core area to become yellow and soft; affected fruit does not store well.

Control: harvest fruit early

water cress (peppercress; *Rorippa Nasturtium aquaticum*; *R. Nasturtium officinale*) A solid, dark green, lacy sprig (4–6 in.) with small ovoid leaves; grown in water, has a mildly pungent flavor, and is used as garnish or as a salad; a cool-season salad vegetable (season 50 days) seed 150,000/oz (*Cardamine rotundifolia* is also called water cress but it is more bitter.)

Groups: summer (green); winter (brown)

1 cup, trimmed = 1.2 oz

Composition: moisture 91–93%; protein 2–3%; fat 0.3%; carbohydrate 1–3%; ash 1%

Storage: Rise in cold water to moisten; wrap and refrigerate or place stems in water and wrap container and water cress; keep in water or plastic wrapping in refrigerator for limited periods

See **cress**

See Part 2: Minerals, Food

water, demineralized Water from which the minerals have been removed by passing the water through an ion-exchange medium

water-distillation A distillation method in which steam is generated at the base of the still and the product being distilled is immersed in boiling water

water, distilled Water from which minerals have been removed by distillation

water, drinking Water that contains no pathogenic organisms and little organic matter; pH 6.5–8.0

Max. 1000 ppm total solids

250 ppm Cl^-

250 ppm SO_4^{2-}

100 ppm Mg

0.5 ppm Zn

0.3 ppm Fe

0.2 ppm Cu

0.1 ppm Pb

See also **water**

water, endogenous Water provided to the body by metabolism of food

water, exogenous Free water plus all volatile substances ingested as food

808 water gas

water gas Prepared by passing superheated steam over glowing coal; contains carbon monoxide and hydrogen, often with petroleum vapor added; can be used for lighting and heating

water glass 1) Sodium silicate; eggs are sometimes stored in a solution (9 parts cooled boiled water to 1 part water glass) of this compound which seals the pores preventing evaporation, contamination, and absorption of odors; unless shells on air-cell end are pricked prior to cooking ("in the shell") eggs will crack; storage life 6-9 months. 2) A container for holding drinking water

water-ground cornmeal See **corn meal (old process)**

water hardness Water containing minerals, e.g., calcium carbonate or calcium sulfate

Classes:

Soft—0-60 ppm

Moderately hard—60-120 ppm

Hard—120-180 ppm

Very hard—180 ppm and up

See Part 2: Water Hardness

water hemlock (*Cicula* spp.) A poisonous plant
See Part 2: Poisonous Plants

water-holding capacity The proportion of its own or added water that can be retained by a substance

water hyacinths Used for hog feed in some areas of the world

water ice A flavored dessert made by mixing the following while freezing: water, fruit or fruit juice, sweeteners, and stabilizers; similar to sherbet but has no milk solids See **sherbet**

See Part 2: Minerals (Trace), Limits

water-insoluble combined lactic acid (WICLA)
Analytical constant of the percentage of esterified lactic acid in an emulsifier

water-level control An automatic device that controls the water level in a retort

water lily (*Nymphaea stellata*) A tropical water plant with the following uses:

Root—consumed raw or cooked

Seeds—roasted and ground and added to pastries

Stems—added to curries

waterlogging See **pineapple physiological breakdown**

watermelon (*Citrullus vulgaris*) An annual climbing plant that produces a large (10-50 lb) fruit; seeds 2-7 lb/acre, 1 oz/100-ft row; plant from 4 ft (icebox types) to 6 ft (large vine types) apart in rows 4-6 ft apart. Different varieties produce different shapes (large, oblong to round) and rind coloring

Watermelon variety	Size	Shape	Rind color	Flesh	Seed color	Days to maturity
Black Diamond (Yellow Belly)	Big	Oval	Dark green	Red		92
Burpee's Fordhook Hybrid	13 lb	Round	Glossy green	Red	Small	74
Charleston Gray	Large; 25 × 10 in.; 30 lb	Long	Gray-green; netted	Red		Late; 85-95
Dixie Queen	Med. to large; 30 lb	Oval	Light green; dark green longitudinal stripes	Deep red; sweet	Small; white	90
Early Kansas	Med. to large	Round	Dark green	Pink	Reddish	85
Early Northern Sweet	Small	Round				78
Halbert Honey		Long and slender				
Harris' Earliest (Coles Early)	Med.	Round	Dark green; light green stripes	Pink		84
Kleckley's Sweets	Med.	Long; oval	Bluish green	Dark red; sweet	White	85
Klondikes (several varieties)	Variable		Clear or striped		black or brown	
Lollipop	3 lb			Red or yellow		Early; 70
Luscious Golden Sweet	Med.	Longer than broad	Dark green	Golden		83

(Continued)

Watermelon variety	Size	Shape	Rind color	Flesh	Seed color	Days to maturity
New Hampshire Midget	6 lb; small; 5 × 7 in.	Oval; 5 in.	Light green; dark green stripes	Crisp; red	Dark	Extra-early; 70
Rhode Island Red	Med.	Oval	Striped; firm	Pink-red		Early
Stone Mountain	Large	Oval	Gray-green	Deep red	White	88
Sugar Baby (icebox)	Small	Oval; 5 in. diam.	Greenish black; faint strips	Crisp; red	Dark brown	Extra-early; 73
Sweet Favorite	20 lb	Oblong	Light green; dark stripes	Red	Small; dark	80
Tom Watson	Large		Dark green	Dark red	Brown	95
Yellow Baby Hybrid	7 in.	Oval to round	Light green; striped dark green	Yellow	Small	70
Citron*						

*A preserving type that is not edible when raw

(green and often green and white striped or variegated). The sweet watery flesh may be white, yellow, pink, or red; seeds are also various colors and may also be eaten.

To judge ripeness:

Green—soft skin; thuds when snapped with finger

Ripe—very hard skin; rings when snapped with finger

White seeds indicate immaturity; belly (underside) has creamy color

Refuse: 55–60%

3 qt (6 lb) watermelon rind unpared

= 4–5 pt watermelon pickle

1 cup, fresh, diced = 11.2 oz

Composition: moisture 91%; protein 0.5%; fat 0.2%; carbohydrate 7%

Storage: 70°F to ripen; refrigerate (36–40°F, 85–90% relative humidity) before eating; storage life 2–3 weeks

See **pickle**

See Part 2: Cucurbit Crops, Spacing and Depth of Planting; Fruit, Availability; Fruit Classification; Fruit Composition; Iron; Minerals, Food; Niacin; Organic Acids in Fruits and Vegetables; Phosphorus; Plant Foods, Composition; Planting Density; Potassium; Potassium-Rich Foods; Pulses, Nuts and Seeds Composition; Storage; Sugar, Vegetables; Thiamin; Vegetable Planting and Maturity Chart; Vegetable Planting Chart; Vegetable Plants; Vegetable Storage; Vegetable Yields

watermelon rind May be pickled or candied

water, mineral Water (normally from springs) that contains a variety of dissolved minerals

water, natural lithia Spring water containing lithium or sometimes with added lithium salts

water oats See **wild rice**

water of hydration Water that is associated in definite proportions with compounds

water ox Water buffalo

water-packed Fruit packed in water, without sugar

water parsnip (*Sium aquaticum*) An aquatic plant with edible leaves

water, potable Water that is suitable to drink

water rice (Indian rice) See **wild rice**

water rot See **black rot**

water, sea Water in the oceans; 3.6% dissolved solids, including 2.6% sodium chloride

water-slaked lime A liming material composed of 65% CaO; each pound has the neutralizing equivalent of 1.2–1.35 lb of CaCO₃ (or approximately this quantity of dolomitic limestone). See also **lime**

water softening The removal or inactivation of minerals from water

water-soluble oil An oil that can be mixed with water and held in an emulsified state

water-soluble vitamins Ascorbic acid (vitamin C), B₁₂, biotin (vitamin H), choline, folic acid, inositol, nicotinic acid, pantothenic acid, paraminobenzoic acid, pyridoxine (vitamin B₆), riboflavin, and thiamin (vitamin B₁)

water spot A wet-weather disease of oranges that is caused by cracking of the cuticle near the navel or near bruises or skin breaks due to swelling of underlying tissues that have absorbed water; if wet weather continues, the areas enlarge and are usually invaded by decay organisms.

watersprout A vigorously growing, upright shoot

water-steam distillation A process that uses steam generated in a separate boiler under atmospheric pressure (wet steam) and passed into the still under the material being distilled; water condensing in the still is controlled by a closed steam coil.

water, warm Water at a temperature from 105 to 115°F

watery diluted; flat; lacking intensity

810 watery breakdown

watery breakdown A low-temperature disease of citrus fruit that causes the fruit to have a soft, spongy, soaked appearance (similar to frozen fruit); often occurs when fruit is stored below 40°F; however, at 32°F storage, it does not develop until after several weeks of storage.

watery soft rot See **soft rot**

watt (W) A measure of power, rate of energy, and heat (10^7 erg/s); an electrical measurement:

$$[x \text{ (in volts)}] \times [y \text{ (in amperes)}] = xy \text{ (in watts)}$$

$$\begin{aligned} 1 \text{ W} &= 1 \times 10^7 \text{ ergs per second (erg/s)} \\ &= 668 \text{ lumens} \\ &= 44.254 \text{ foot-pounds per minute (ft-lb/min)} \\ &= 3.41304 \text{ British thermal units per hour (Btu/h)} \\ &= 1 \text{ joule per second (J/s)} \\ &= 0.73761 \text{ foot pounds per second (ft-lb/s)} \\ &= 0.10198 \text{ kilogram-meter per second (kg-m/s)} \\ &= 0.056884 \text{ British thermal units per minute (Btu/min)} \\ &= 0.01433 \text{ kilogram-calorie per minute (kg-cal/min)} \\ &= 0.001360 \text{ metric horsepower [hp; 1 hp (metric) = 75 kg-m/s]} \\ &= 0.001341 \text{ US horsepower [hp; 1 hp (US) = 550 ft-lb/s]} \\ &= 0.001 \text{ kilowatt (kW)} \\ &= 0.0009480 \text{ British thermal unit per second (Btu/s)} \\ &= 0.0002389 \text{ kilogram-calorie (thermal units) per second (kg-cal/s)} \end{aligned}$$

$$1 \text{ W (absolute)} = 1 \text{ joule per second (J/s)}$$

$$1 \text{ W (international)} = 1.000165 \text{ watt (W; absolute)}$$

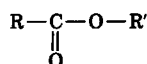
$$746 \text{ W} = 1 \text{ horsepower (hp)}$$

watt-hour (W-h) A rate of power, energy, or heat; the work done by one watt acting for one hour

$$\begin{aligned} 1 \text{ W-h} &= 3.6 \times 10^{10} \text{ ergs} \\ &= 2655 \text{ foot-pounds (ft-lb)} \\ &= 860.5 \text{ gram-calories (g-cal)} \\ &= 367.1 \text{ kilogram-meters (kg-m)} \\ &= 3.413 \text{ British thermal units (Btu)} \\ &= 1.341 \times 10^{-3} \text{ horsepower (US)-hour (hp-h)} \\ &= 0.0010 \text{ kilowatt-hour (kW-h)} \\ &= 0.860 \text{ kilogram-calorie (kg-cal)} \end{aligned}$$

wattle The bark of an Australian tree containing tannin; used in the vegetable tanning of leather

wax



An ester of a long-chain fatty acid and a monohydric or dihydric alcohol; material of plant or animal origin that is harder than fat; a substance secreted by bees and used to construct honeycomb; paraffin wax is composed of higher hydrocarbons of petroleum origin; water repellent; paraffin wax and waxed paper are used in food packaging.

See Part 2: Saturated Fatty Acids; Wax

wax bean A kidney bean with yellow pods

waxed paper Paper coated with paraffin wax; impervious to water and grease

See Part 2: Frozen Food Containers

wax gourd (tallow gourd; white gourd) An oblong (15×5 in.) gourd with white floury flesh; used as a vegetable See **gourd**

wax myrtle See **bayberry**

wax palm See **palm**

waxy starch A starch that is devoid of amylase, e.g., barley, maize, rice, rye, and sorghum

WB agar See Part 2: Intestinal Microorganisms

weak Describes flour that is low in gluten or that has poor baking characteristics

weak electrolyte A substance that has a dissociation value between nonelectrolytes and electrolytes (strong), e.g., organic acids and bases

weakfish (*Cynoscion regalis*) A saltwater fish See **sea trout**

Wealthy A variety of apple that is in season from Aug. to Nov. and that makes good pies and sauce, but has only fair eating quality

weaning Substituting other foods for breast milk or bottle milk in feeding an infant, usually before the age of 2

weaning diarrhea Diarrhea occurring during the period of weaning, or soon after

weaning food Food given to infants during the weaning period in order to meet their nutritional needs

weaning practice The method and timing of replacement of breast milk or milk

weanling An animal that has just been removed from its mother's milk and is eating solid food

weasand Muscle tissue surrounding the esophagus (passage to the stomach; trachea; windpipe; gullet); used in sausage

See Part 2: Casings, Animal; Casings, Terms

weathery Describes an unpleasant rainwater-like taste

web See **caul**

weber (Wb) A measure of magnetic flux

$$1 \text{ Wb} = 1 \times 10^8 \text{ maxwells (Mx)}$$

$$= 1 \times 10^5 \text{ kilolines}$$

weber per square inch (Wb/in.²) A measure of magnetic flux density

$$1 \text{ Wb/in.}^2 = 1 \times 10^8 \text{ lines per square inch}$$

$$= 1.55 \times 10^7 \text{ gauss (G)}$$

$$= 1.55 \times 10^3 \text{ webers per square meter (Wb/m}^2\text{)}$$

$$= 0.155 \text{ webers per square centimeter (Wb/cm}^2\text{)}$$

weber per square meter (Wb/m²) A measure of magnetic flux density

$$1 \text{ Wb/m}^2 = 6.452 \times 10^4 \text{ lines per square inch}$$

$$= 1 \times 10^4 \text{ gauss (G)}$$

$$= 6.452 \times 10^{-4} \text{ weber per square inch (Wb/in.}^2\text{)}$$

$$= 1 \times 10^{-4} \text{ weber per square centimeter (Wb/cm}^2\text{)}$$

web fat The fat covering the paunch and intestines

webworm 1) Any of several caterpillars that spin webs to live in. 2) A caterpillar that attacks sugar beets around midseason; newly hatched, they are cream-colored, about $\frac{1}{16}$ in. long; they turn dark green in a few days and feed mostly on the underside of leaves; when disturbed, they drop and hang on fine threads. Fully grown webworms are olive green, with light and dark longitudinal stripes, and eat only the foliage, leaving the leaf veins.

Insecticide: methyl parathion

See: **tent caterpillar**

wedder Wether

wedge bone sirloin A sirloin steak found in the loin end wholesale cut; it is located between the butt end sirloin (first sirloin from rump end) and the round bone sirloin.

See Part 2: Bone in Retail Cuts

weed Any plant growing where it is not wanted; any plant that interferes with growth of a more valuable plant

See Part 2: Corn Herbicides

weed killer Herbicide

weedy Describes a flavor of milk that is due to weeds (e.g., dog fennel, French weed, garlic, or onion) consumed by the cow

weenie Wienerwurst

weeping Exuding drops of liquid, indicating that something lacks moisture-holding properties, e.g., buttermilk, meat

weevil See **pecan weevil**

wehlen A white wine

Weigh-A-Day-Month (WADAM) A program by which a producer records monthly milk weights on each cow and mails in the information

weighing bottle A glass vessel with a glass stoppered top; used in weighing samples that should not be exposed to air

weight The property of heaviness; the force of the attraction of a mass by gravity, often measured by a balance or scale

See Part 2: Body Weight; Weight; Weight, Human

weight of plate The weight of 112 sheets (14×20 in. each, or a total of 31,360 in.²) of a material

weihnachtstollen A tea bread with fruit

wein Wine

weisse A strong, sour, alcoholic beer made from wheat

weisslacker See **beer cheese**

weisslackerkäse A soft, white, ripened cheese made from cow's milk

weisswurst (white sausage) A fresh sausage made from pork or veal; similar to bratwurst

weisswurst, American A moist, cooked or uncooked, unsmoked American sausage made from medium- to coarse-chopped, mildly seasoned (with mace, sage, and thyme), pork and veal, stuffed into large-diameter links or rings (pork or artificial casings); similar to bratwurst

weisswurst, German A white, fresh, mildly spiced German sausage made from pork and veal (principal ingredient) with max. 10% skin, 25% water, and 30% fat

welchii, Clostridium See Part 2: Illness from Food; Microbial Toxins

weld To join together while in a plastic or semifused form

well-done Of beef, cooked to an internal temperature of 170°F (77°C); in general, meat cooked until no red color remains

See Part 2: Beef Degrees of Doneness; Beef Roasting

Welsh (Old Glamorgan) A long-bodied, hardy, white, bacon-type pig that originated in Wales; similar to German Landrace

Welsh Black A black breed of cattle from Wales

Types:

North Wales (Anglesey)—dual-purpose

South Wales (Pembroke, Castle Martin)—dairy type

Welsh Lop-Ear A British breed of white swine

Welsh Mountain A short, small, hardy, white-faced breed of mountain sheep with fine thick wool; rams have horns, ewes do not.

Welsh onion (*Allium cepa* Perutile) A species of bunching onion with interleaved bulb and tubular leaves

Welsh rabbit (Welsh rarebit) A cooked mixture of cheddar cheese, milk, and ale or beer; served on toast or crackers

wensleydale cheese A pale, delicate, semihard, mild, crumbly cheese made from whole pasteurized cow's milk that is coagulated with a lactic-acid starter culture and rennet; salted, pressed, and matured 4–6 weeks; it has a subtle honeyed aftertaste and is eaten both fresh (soft, white, and creamy) and ripened (rich, soft, and double-creamed, with blue veins)

wensleydale cheese, English A mild, subtly flavored English (Yorkshire) cheese with a honeyed aftertaste and a flaky texture; pale parchment color

Wensleydale sheep A British breed of long-wool sheep

werder A tilsit-type cheese

Wessex Saddleback See Part 2: Swine Breeds

West Bothian See **vaslerbottensost**

West Country Down Sheep An early name (1840) for the Hampshire breed of sheep

western flower thrip (*Frankliniella occidentalis*) An insect that may also affect pears

western steak Steak cut from the chuck

Western style See **Chicago style**

western wallflower (*Erysimum asperum*) An annual weed

westfalie A dry, uncooked, smoked Belgian sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into pork casings

westfalischen mettwurst A coarse salami made from pork

812 west gothland

west gothland See **vastgotaost**

West Highland (Kyloes) A hardy, slow-maturing Scottish breed of beef cattle with a black, red, or yellow, shaggy coat

West Indian cherry [Barbados cherry; Puerto Rican cherry; Surinam cherry (not *Eugenia uniflora*); *Malpighia glabra*; *M. punicifolia*] A yellow-orange to red, soft, juicy, tart fruit containing three small seeds and consumed fresh and in jellies, sherberts, syrups, and wine; high in vitamin C

westminster blue A blue cheese that is made from cow's milk and has white surface mold

Weston Stoned A thin wheat cracker made without sugar

westphalian ham A country-cured-style ham produced in Germany; a country ham smoked with juniper twigs and berries on a beechwood fire

wet bulb (wet-bulb temperature) The temperature of air as measured when a wet sock is placed over the bulb of a thermometer (air velocity should be approximately 2 m/s for a correct reading); wet-bulb and dry-bulb temperature readings taken together are used to calculate relative humidity.

See Part 2: Relative Humidity

wet-dog odor Describes a burnt, proteinlike odor

wether (teg; wedder) A male ovine animal (sheep) that was castrated before attaining sexual maturity
See Part 2: Sheep Market Classes and Grades

wether hog A castrated hoggett

wet-ink varnish A varnish that is applied over wet print so that both can dry at one time

wet-rendered Describes a material that has been cooked with steam under pressure

wet steam Steam generated under atmospheric pressure

wetting Describes the action of a cleaning solution in contacting the entire surface of soil or equipment

wetting agent A surface-active agent; an average concentration of 0.15% will normally reduce surface tension by half; increased concentrations do not lower this value appreciably; used when mixing solids with liquids and spreading liquids on a surface
See **surface-active agent**

wet veal A slaughter calf under the age of 3 weeks

wexford cheese A pale, soft, creamy, crumbly, orange, full-cream, cantal-type cheese with a waxed or oiled rind

WFC World Food Council

WFP World Food Program

whale Any of many aquatic mammals of the order *Cetacea*; used for oil, flesh (red, sour, and tangy), and whalebone

Composition (meat): moisture 71–78%; protein 20–21%; fat 2–8%; carbohydrate 0%; ash 1%

Use of such materials has been restricted in the United States and many other countries for animal conservation reasons.

See Part 2: Meat and Meat Products, Composition; Vitamin D, Fish

whale oil Oil obtained from whale blubber

Fatty acid	Number of carbons	Percentage
Saturated	14	8–9
	16	12–16
	18	2–3
Unsaturated	14	2
	16	15
	18	33–35
Polyunsaturated	18	9
	20	8
	22	11

Properties (refined oil):

Acid number—0.73

Iodine value—100–140

Saponification value—180–205

Specific gravity (20°/4°C)—0.9227

Unsaponifiable matter—1–4%

See Part 2: Fats and Oils, Characteristics; Fats and Oils, Physical and Chemical Properties; Iodine and Saponification Values; Saturated Fatty Acids; Titer, Fats and Oils; Unsaponifiable Matter; Unsaturated Fatty Acids

wheat (*Triticum* spp.) The most important cereal grain of the temperate climate, originally from the Mediterranean and Middle East; it is usually made

Wheat type	Subtypes and characteristics	Color	Use
Bread (<i>T. aestivum</i> syn. <i>T. vulgare</i>)	Spring-sown in spring; harvested in late summer Winter—sown in autumn; harvested in early summer Hard—high in protein Soft—mealy in texture, high in starch	Whitish; amber; reddish; purple; bluish	Bread flour
Durum (<i>T. durum</i>)	High in gluten	White; amber; red; purple	Semolina; pasta; macaroni
Emmer (<i>T. dicoccum</i>)	Important in early historic times		Fodder
Rivet, cone English (<i>T. turgidum</i>)	Important in early historic England		Livestock feed

into flour (by grinding and separating out the chaff), but is also used in other forms and as animal feed. Wheat stores and ships well and has a high content of gluten protein, which is necessary for the leavening process. Seed 1–3 bu/acre; time from planting to harvest ranges from 2½ to 5 months; yield (grown as an annual grain) is 60 lb/bu (1.9 lb/qt).

Wheat grades	Percentage of flour from milling
Straight Patent	97–98
Short	60–80
Medium	80–90
Long	90–95
Clear*	5–40

*Withheld from making patent flour

Types:

Hard—Dry and granular in texture; tends to powder; more gluten than starch

Soft—Smooth and soft in texture; tends to lump; more starch than gluten

The yield of flour from wheat is 69–72%; 1.7 lb/qt; pH 6.0

Wheat	Composition				
	Dry matter (%)	Protein (%)	Fat (%)	Fiber (%)	Ash (%)
<i>T. aestivum</i>					
Hard red spring	88	15	1.8	2.5	1.6
Hard red winter	88	13	1.6	2.5	1.7
Soft red winter	88	11.5	1.6	2.7	1.8
Soft white winter	89	10.1	1.7	2.3	1.6
<i>T. durum</i>					
Durum	88	13.9	1.8	2.2	1.6

1 bu whole = 60 lb (55–65 lb/bu)

Whole-grain wheat is 13% bran, 85% endosperm and 2% germ.

Wheat (milling characteristic)	Flour			
	Used for	Unsatisfactory for		
Durum	Macaroni; spaghetti	Bread; cakes; cookies		
Hard	Bread	Cakes; cookies; crackers		
Soft	Cakes; cookies; crackers	Bread		
Composition	Bran (%)	Endosperm (%)	Germ (%)	Whole grain (%; avg.)
Moisture	8–11	13	8–12	11–13
Protein	11–15	10–13	24–36	8–15
Fat	3.9–7	1	8–12	1–3
Carbohydrate	48–54	72–78	35–38	64–76
Fiber	10–11	0.2–0.3	1.5–3.1	1.6–2.6
Ash	6.1–8	0.3–0.4	4–4.2	1–2

Lysine is the first limiting amino acid and threonine is the second. As an animal feed, wheat has 105% the value of corn in limited amounts (not over 50%) in swine and cattle rations

Caloric content of wheat as breakfast cereals:

Puffed

1 oz (about 1⅞ cups) = 105 calories

Presweetened—1 oz (about ⅔ cup) = 105 calories

Rolled—cooked, ¾ cup = 135 calories

Shredded—plain, 1 oz (1 large biscuit or ½ cup bite-sized pieces) = 100 calories

Flakes—1 oz (about 1 cup) = 100 calories

Nutrient	Approximate amount used to grow	
	30 bu grain	1 ton straw
N (lb)	34	10
P ₂ O ₅ (lb)	15	3
K ₂ O (lb)	9	15

Storage: moisture content of grain should be 12–14%; foods made from wheat should be kept in a tightly closed container in a cool place; freeze for longer storage.

See Part 2: Cereal Composition; Cereal Fortification; Cereal, Nutrient Content; Cereals, Vitamin and Mineral Content; Grain Analysis; Grain Products, Composition; Minerals, Food; Minerals, Plant or Animal Tissue; Nutrients in Crops; Pantothenic Acid Content; Pentosans; Plant Foods, Composition; Protein Factors; Seed, Chemical Composition; Seed Composition; Seed, Germination; Spoilage, Fat in Food; Starch, Microappearance; Tocopherols; Wheat, Amino Acids; Wheat and Flour, Composition; Wheat, Carbohydrate Composition; Wheat, Fatty Acids; Wheat Grades; Wheat Grain; Wheat Kernel; Wheat Kernel Parts; Wheat, Minerals; Wheat, Parts of Grain; Wheat, Parts of Grain, Vitamins; Wheat Production in the US; Wheat Products, Amino Acid Compositions; Wheat Products, Composition; Wheat Varieties; Wheat, Vitamins

Wheat and Corn Center Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT), an agricultural research center located in Mexico; part of the Consultative Group for International Agricultural Research (CGIAR)

wheat berry Requires presoaking and cooking to make soft enough to eat; cracked wheat is made from crushed wheat berry; flour is made from ground wheat berry

wheat bran The husk of grain, with some attached endosperm; removed during milling; 0.5 lb/qt; 16 lb/bu

Composition: moisture 11%; protein 15–16%; fat 3–5%; carbohydrate 60–70% crude fiber 10%; ash 6% See Part 2: Cereal By-Products, Composition

wheat, bulgur A form of crushed wheat

Storage: in tightly, closed container in a cool place; freeze for longer storage.

wheat cereal A breakfast cereal

Composition (dry): moisture 10%; protein 15%; fat 5%; carbohydrate 67%

wheat, cracked (bulgur wheat) A product made by cutting or cracking cleaned wheat into small pieces; durum is not used for cracking wheat.

Available forms: coarse; medium; fine

Cooks faster than whole wheat; 150 g/dry cup

814 wheat, cracked (bulgur wheat)

Fiber content (dry): 10%

Storage: tightly closed container in a cool place or freeze for longer storage

wheat, crushed Cleaned wheat that has been cut into angular fragments

wheat, emmer (*Triticum dicoccum*) An early type of wheat that was grown originally in Europe

Wheatena A breakfast food made from wheat endosperm with most of the bran and embryo

Wheat Flakes A ready-to-eat breakfast cereal made from precooked or toasted mixtures of bran (15%), wheat flour, barley malt, sugar, and salt; hulled wheat berries are passed through heated rollers to produce the toasted flavor.

Composition: moisture 3%; protein 7–10%; fat 1–2%; carbohydrate 78–85%

wheat flour See flour entries

wheat, flour by-product

Composition	Middlings	Shorts	
	(< 9.5% fiber)	(< 4% fiber)	(< 7% fiber)
Dry matter (%)	89	88	88
Protein (%)	16.4	15	16.5
Fat (%)	4	3	5
Fiber (%)	7	2.6	7
Ash (%)	5	2	4

wheat germ The part of the kernel necessary for new plant life (embryo); it is the oil-containing portion of the kernel and is flattened and sifted out as a yellow oil flake (has a nutty flavor)

Composition: moisture 8–11%; protein 27–32%; fat 8–11%; carbohydrate 38–47%; ash 4%

Storage: store in refrigerator after opening

See also **wheat-germ oil**

See Part 2: Grain Products, Composition

wheat germ crisp A cracker containing no salt or sugar

wheat germ oil A bland yellow oil obtained from wheat germ. Used as a source of vitamin E and in skin creams

Composition: linoleic acid 44–52%; linolenic acid 4–11%; oleic acid 29–30%; saturated fatty acids 15–16%

Properties: acid value 6–20; d_{25}^{25} 0.925–0.933; iodine value 115–125; I.U. of vitamin E per gram 2; saponification value 180–190; unsaponifiable 5%

See Part 2: Fats and Oils, Physical and Chemical Properties; Tocopherols

wheat gluten A yellow-gray material obtained by washing the starch out of dough; its two main proteins are gliadin and glutelin

wheatgrass Approximately 150 species of *Agropyron*

Crested wheatgrass (*A. cristatum*)

Intermediate wheatgrass (*A. intermedium*)

Quackgrass (*A. repens*)—often a serious weed

Slender wheatgrass (*A. pauciflorum*)

Tall wheatgrass (*A. elongatum*)

Western wheatgrass (*A. smithii*)

See Part 2: Seed, Germination

Wheaties A ready-to-eat cereal made by General Mills; 8.2% sugar

1 cup = $\frac{4}{5}$ ounce

wheatings Wheat middlings with a maximum of 5.75% fiber

wheatings, superfine Wheat middlings with a maximum of 4.5% fiber

wheat jointworm (*Harmolita tritici*) An insect that interferes with plant and kernel development of wheat

wheatmeal bread A bread made from high extraction, wheat flour

wheat middlings Particles with less husk and more endosperm than bran; 0.8 pounds per quart; 26 pounds per bushel See **wheat flour, by-products**

wheat, mill run Composition (less than 9.5% fiber): dry matter 90%; protein 15%; fiber 8%; fat 4%; ash 5%

wheat, puffed See **puffed wheat**

See Part 2: Grain Products Composition

wheat, rolled Cleaned wheat that is passed through rollers to produce a breakfast cereal

1 cup, uncooked = 3.1 ounces

1 cup, cooked = 7.7 ounces

Composition (dry): moisture 10%; protein 10%; fat 2%; carbohydrate 74%

wheat screening Residue left from screening of wheat grain; 1 pound per quart; 32 pounds per bushel Composition (grain screening): dry matter 89%; protein 14%; fiber 7%; fat 3.5%; ash 5.5%

wheat shorts See **wheat flour, by-product**

wheat, shredded See **shredded wheat**

wheat stem sawfly (*Cephus cinctus* Norton) An insect whose larvae tunnel and girdle stems of wheat

wheat varieties See Part 2: Wheat Varieties

whelk A shellfish

whetstone See **novaculite**

Whey (milk serum, lacto-serum; serum lactis) A class name for cheese whey, concentrated cheese whey, and dried cheese whey; watery part of milk separated from curd by action of rennet or lactic acid; obtained when making cheese or manufacturing casein

1 cup, fluid = 8.6 ounces

Composition	Acid, dry	Acid, fluid	Low-lactose dehydrated	Sweet, dry	Sweet, fluid
Moisture (%)	3.5	93–94	7	3.2–3.5	93–94
Protein (%)	11–12	0.8–1	16.7	12–13	0.8–1
Fat (%)	0.5	0.1	1	1–1.5	0.3–0.4
Carbohydrate (%)	73–74	5.1–5.2		74–75	5.1–5.2
Fiber (%)	0	0		0	0
Ash (%)	11	0.6	15.4	8–9	0.5–0.6
Lactose (%)	65			65	

Calcium 0.75–0.90%

Acid Whey—pH 4.7 from cottage cheese; 100 pounds (lb) skimmed milk = 16 lb cottage cheese + 84 (lb) whey

Sweet whey—pH 6.2 from cheddar and swiss and other cheeses; 100 lb whole milk = 10 lb cheddar cheese + 90 lb whey

Casein whey—contains precipitating acid; 100 lb skimmed milk = 2.8 lb casein + 91 lb whey

See also **cottage cheese**

See Part 2: Dairy Products, Composition; Milk, Amino Acids; Milk and Milk Products, Vitamin Content; Milk, Concentrated Products; Milk, Dry Products; Vitamin A, Milk and Milk Products

whey agar See Part 2: Microorganism, Media

whey butter Butter made from fat left in whey during the cheese-making process

whey cheese A mysost or ricotta-type cheese

wheying off Separation of whey; e.g., buttermilk

whey powder Spray-dried whey

whey protein Lactalbumin and lactoglobulin

whey vinegar Vinegar made from milk whey

whiff (megrim) A food fish

whinberry See **bilberry**

whip To beat rapidly; to incorporate air and increase volume; to beat or mix until stiff, e.g., eggs. A raw or cooked (350°F oven) food made by whipping (15–20 minutes) cream or egg whites; fruit is often added to the egg-based whips See **candy**

whipped cream topping A pressurized cream
Composition: moisture 61.3%; protein 3.2%; fat 22.2%; carbohydrate 12.5%; ash 0.8%

whipped topping A pressurized creamlike topping
1 tbsp = 10 calories

Whipperwill A variety of cowpeas

whipping Rapid beating, usually to incorporate air, e.g., whipping egg whites

whipping cream A cream capable of being beaten to a froth; min. 30% milkfat

$\frac{1}{2}$ pint whipping cream = 2 cups whipped cream

Easiest to whip when chilled between 35–40°F. Sweetened with 2–4 tbsp sugar per cup of unwhipped cream, added after whipping is complete; sweetened is less stiff and less stable than unsweetened

	Age for best whipping (hr)
Freshly separated cream	24
Pasteurized whipping cream	60
Raw whipping cream	48

Heavy, 1 tbsp = 50 calories

Light, 1 tbsp = 45 calories

whipworm A food-borne parasite (*Trichuris trichiura*) found in human feces

whiskey [American; Canadian; Irish; Scotch (spelled whisky)] Same as whisky. A liquor made by the distillation of fermented grain (barley, corn, rye, wheat), mash of malt, or of cereal grains saccharified by diastase of malt and stored in wood for at least 4 years; not less than 80 proof; 37–53% alcohol by volume; sp. gr. 0.923–0.935 at 25°C; bourbon is from barley or wheat malt and corn; rye is from rye or barley malt and unmalted rye.

Types:

Corn whiskey—distilled from fermented mash that is 80% corn

Heads—first run in the distilling process

Irish whiskey—malted and unmalted grains

Neutral spirits—middle run in the distilling process

Rectified spirits—mixtures of whiskeys

Scotch whisky—pure barley malt; smokey taste

Straight whiskey—whiskey as it left the still (aged or raw) with the possible addition of distilled water

Tails—last run in the distilling process

See **Bourbon whiskey; Canadian whiskey; Scotch Whisky**; whisky entries

See Part 2: Minerals (Trace), Limits

whiskey, blended Combined straight whiskeys or straight whiskey and neutral spirits

whisky The spelling used for Scotch whiskey; Scotland whiskey. High alcohol spirit distilled from fermented barley, maize, rye, or other cereal grain; some or all may be malted; usually blended

Types:

Blended—mixture of straight malt whiskey with natural grain whiskey

Malt—malted barley

1 fluid ounce (oz) = 28 grams

1 fluid oz, 80 proof = 63 calories

86 proof = 70 calories

90 proof = 73 calories

See **whiskey**

whisky liqueur A spirit-based, alcoholic beverage; based on whisky

white The albuminous portion of an egg (cytoplasm)
See Part 2: Egg Structure; Egg Volume

white amur A food fish See **grass carp**

whitebait (blanchaille; fry; nonnats; sand eel; small fish; Clupea sprattus or other small-sized Clupea) A European and North American food fish. Young herring (*Culpea harengus*) and sprats (*C. sprattus*). See also **smelt**

white bass (Lepidema chrysops) A freshwater food fish

whitebeam See **service berry**

white beet See **chard**

white-bellied skate (skate, owl) A food fish

white blood cell (leukocyte) A blood cell that contains no hemoglobin; 5,000 per cubic millimeter of blood; 1/3000 of blood volume

white Bordeaux See **Bordeaux, white**

white bread A bread made from 70–75% extraction wheat flour

white Burgundy See **Burgundy, white**

white cheese A fresh, skimmed-milk cheese with rennet added

white clover (Trifolium repens) A perennial legume used for pasture; pH 5.5 or higher

white cockle (Lychnis alba) An annual weed

white crappie A light meat, very light delicate flavor finfish

816 white distilled vinegar (white vinegar; distilled vinegar)

white distilled vinegar (white vinegar; distilled vinegar) The product made by the acetous fermentation of dilute distilled alcohol, producing a very clean, clear taste

white-eyed pea See **cowpea**

white fiber (fibre) A white-colored muscle fiber that stains (lipid) Sudan black B negative

whitefish (chub; cisco; lake herring; lake whitefish; menominee whitefish; mountain herring; pilot fish; roundfish; sault whitefish; shad-waiter; Coregonus spf.) A fat freshwater fish caught in northern lakes of Canada and United States. Chewy, snowy white, fresh, sea fish. Average weight $3\frac{1}{2}$ pounds

Composition: protein 19%; fat 5.2–8.2%

See also **demersal fish**

See Part 2: Minerals, Food; Nicotinic Acid, Food; Unsaturated Fatty Acids

whitefish, common (Coregonus clupeaformis) A food fish

white flour The starch and gluten of the endosperm of a kernel of wheat See also **flour**

white fluke (flounder) A European food fish

whitefly Several species of garden pest

white goods Gin, tequila, or vodka

white gourd See **wax gourd**

white grub The larvae of the June beetle; soft, robust, dirty white to grayish, U-shaped grubs that have six legs, shiny brown heads, and enlarged blackish abdomens; $\frac{1}{8}$ – $1\frac{1}{2}$ inches long. Live 1–4 years in soil depending upon species

Host: Grass and some cultivated crop roots

Damage: Roots of strawberry plants

Control: Do not plant strawberries in newly plowed grassland; insecticide

white hake (Urophycis tenuis) A food fish
See **hake**

White Holland See Part 2: Turkey Varieties

white hots (white sausage) A moist, cooked, smoked or unsmoked American sausage made from fine, medium, or coarsely chopped, uncured, mildly seasoned beef, pork, and veal and stuffed into large diameter links or rings, pork, sheep, or artificial casings

white king salmon A white meat, light to moderate flavor, finfish

white label rum A light rum

white miso A flavorful (1 week fermentation), light-colored, low-salt paste made from soybean and rice

white mullet See **mullet**

white mustard (Brassica hirta or Sinapis alba)
A plant grown for mustard and mustard oil

white peking ducks See **peking ducks**

white pepper Mature peppercorn with outer black skin removed from dried fruit See also **pepper**

white perch (Roccus chrysops) A small migratory bass-type food fish

Freshwater—drum

Marine—sea perch

See **sheepshead**

white pickled cheese See **white brined cheese**

white pine lumber See Part 2: Insulation

white port An aged aperitif wine made by fortifying the partially fermented juice of white grapes

white pudding A moist, cooked, unsmoked British sausage made from fine, medium, or coarsely chopped, mild or medium seasoned beef and stuffed into beef, pork, or artificial casings

white pudding rings A moist, cooked, unsmoked Irish sausage made from finely chopped, medium seasoned, beef, lamb, and pork and stuffed into beef, pork, or artificial casings

white rice See **rice**

white rot Threadlike shadows in the thin white of an egg

white rust (leaf mold; Albugo ipomoeae-panduratae) A sweet potato disease that produces brown spots on the undersides of leaves, which are covered with whitish, viscid growth that later becomes powdery

white sapote (Casimiroa edulis) A round, pulpy, edible, tropical American, tree fruit

white sauce A sauce made from thickened milk, flour, thickener, fat, salt, and seasoning (usually pepper)

	Thin	Medium	Thick
Butter or margarine	1 tbsp	2 tbsp	3 tbsp
Flour	1 tbsp	2 tbsp	3 tbsp
Milk or cream	1 cup	1 cup	1 cup
Pepper	$\frac{1}{8}$ tsp	$\frac{1}{8}$ tsp	$\frac{1}{8}$ tsp
Salt	$\frac{1}{2}$ tsp	$\frac{1}{2}$ tsp	$\frac{1}{4}$ – $\frac{1}{2}$ tsp

Composition	Dehydrated	Prepared with milk
Moisture (%)	1.5	81.5
Protein (%)	10.9	3.9
Fat (%)	26.7	5.1
Carbohydrate (%)	50.6	8.1
Fiber (%)	0.2	0.02
Ash (%)	10.3	1.4

See Part 2: White Sauce

white sausage A sausage containing oatmeal, fat, and seasoning See **bratwurst**; **weisswurst**; **white hots**

white scours A microbial infection in newborn calves that is often fatal

white sea bass (Cynoscion nobilis) A light meat, very light delicate flavor, California finfish used for food

white sea trout A white meat, light to moderate flavor finfish used for food

white shad See **shad**

white shark (man-eater) A food fish

white snakeroot A plant having a toxic principle
See Part 2: Poisonous Plants

white soda Sweetened carbonated water that contains fruit juices, acids, oils, and real or imitation lemon extract

white sole (witch flounder) A European food fish
white steenbras (*Lithognathus lithognatus*) A food fish

white stilton A semihard, crumbly cheese made from whole cow's milk; some types have blue veining

white stumpnose (*Rhabdosargus globiceps*) A South African food fish

white sturgeon (*Acipenser transmontanus*) A food fish

white taste A mixture with no identifiable taste

0.01 M sucrose

0.014 M sodium chloride

0.0002 M citric acid

0.000004 M quinine sulfate

white tip A rice disease (*Aphelenchoides besseyi*) caused by a nematode or eelworm. It may be controlled by planting resistant varieties, using disease-free seed, water seeding, and continuous flooding

white tokay wine A dessert wine with nectarlike flavor made from sweet, Catawba grapes

white trout See sea trout

white vinegar Distilled vinegar See distilled vinegar

white walnut See butternut

whitewash A liquid for whitening and disinfecting a surface; made using the following procedure:

1. Combine 38 lb quicklime or 50 lb hydrated lime (protected from air) with 7 gal water.
2. Strain paste through fly screen.
3. Add 4 gal water and allow to cool.
4. Dissolve 3 lb borax or trisodium phosphate (preferred) in 3 gal of skimmed milk; or better method is to dissolve the borax or trisodium phosphate in 1 gal of water and then add the following solution: 5 lb casein softened for 2 hr in 2 gal hot water
5. Dissolve 3 pt formaldehyde in 3 gal of water.
6. When the lime paste in Step No. 3 and milk or casein solution in Step No. 4 are cool, slowly mix by stirring.
7. Just before using, slowly add formaldehyde solution with stirring (adding it too fast will cause casein to gel)

Note: Mix only as much as can be used in one day

white wine An alcoholic beverage made by fermentation of grape (*Vitis vinifera*) juice

whiting (frostfish; hake; silver hake) A lean cod-like fish caught in New England and England.

Australia (*Sillago* spp.)

Big-eye, Pacific—See Alaska pollock

Europe [*Gadus (Odontogadus) merlangus*]

Northwest Atlantic (*Merluccius bilinearis*)

A number of species; common name for many of the hake species of saltwater fish

Common species

American Whiting

Carolina Whiting

North Atlantic Whiting

Pacific Whiting

Silver hake

White hake

A lean, white flesh, light to moderate flavor, saltwater, food, finfish from the cod family; average weight is 2 pounds; average length is 16 inches

Composition: protein 18.3%; fat 1.3–3% See demersal fish; hake

See Part 2: Fish, Smoke-Cured; Frozen Food Storage

WHO World Health Organization See World Health Organization

whole dry milk (dry milk solids) A product made by removing water from fluid whole milk; max. 4–5% moisture; at least 26–28% milkfat; 1 pound = 3 $\frac{2}{3}$ cups; 1 cup = 120 grams (4.3 ounces). U.S. Grades: Premium, Extra, Standard. Reconstituted by adding 4 $\frac{1}{2}$ ounces dry milk to 1 quart water

Dry storage: Below 70°F in a metal container; storage life up to 1 year

whole fish Fish as it comes from the water
 See Part 2: Fish Yields

whole grain Containing all parts of the kernel. Contains germ and outer layers of grain where the B vitamins and minerals are concentrated.

To cook: 2 parts water to 1 part grain

Storage: tightly covered in cool, dry place for up to 5 months; for longer storage, place in moisture-vapor-proof material and refrigerate

whole-herd buyout See Milk Production Termination Program

whole hog sausage Sausage made from fresh or frozen pork in proportions that are normal to a single animal; must have all parts of a hog in natural proportions; hog hearts and tongues are permitted ingredients. Maximum 50% trimmable fat; maximum 3% (total ingredients) added water

wholemeal A flour that contains some bran

wholemeal bread A bread made from 100% extraction whole wheat flour

wholesale cut Primal cut; large cut of meat for wholesale use

See Part 2: Lamb, Wholesale Cuts; Meat Label

wholesome 1) Does not contain insects, filth, or decay. 2) Free of blemishes. 3) Positive impression as to "safe to eat." 4) Positive impression of quality. 5) Safe or healthful. 6) Sometimes, without treatment or additive. 7) Suitable to consume. 8) Vaguely good nutritionally; good in a nutritional sense

wholesomeness Freedom from pathogenic or other harmful bacteria

whole wheat crackers

Composition: sodium 30 mg per cracker (4 grams)

whole wheat flour Flour made from the entire kernel of wheat; flavor deteriorates with storage and maximum shelf life is approx 1 month See also graham flour

whole wheat mini lasagna Whole wheat pasta

whole wheat spaghetti Whole wheat pasta

whortleberry See bilberry

See Part 2: Flavor Ingredients, Taste and Flavor Type

whortleberry, true (whortleberry, red) A small, red, acid, berry similar to cranberry

wiankowa A semidry, cooked, double smoked Polish sausage made from medium or coarsely chopped, medium seasoned beef and pork and stuffed into pork or artificial casings

WIC See Special Supplemental Food Program for Women, Infants and Children

WICLA See **Water Insoluble Combined Lactic Acid**

wide casing See Part 2: Casings, Hog; Casings, Hog and Beef; Casings, Sheep; Casings, Terms

wide-end middle Natural beef casings used in the meat trade; they come from the middle part of the large intestine

wide hog casing A casing that is 38–43 mm in width

wiejska (country) A moist, uncooked, smoked Polish sausage made from medium or coarsely chopped, medium seasoned pork and beef and stuffed into beef or artificial casings

wiener 1) Short for wienerwurst; a sausage product made from beef, pork, and sometimes veal; same as frankfurter in the United States. 2) A semidry, cooked, smoked Austrian sausage made from coarsely chopped, medium seasoned (nitrite) beef and pork and stuffed into beef or artificial casings with a diameter of greater than 40 mm See **frankfurter**
See Part 2: Sausage Identification

wienerkorv A moist, cooked, smoked Swedish sausage made from finely chopped, mildly seasoned beef and pork and stuffed into sheep casings
Composition (maximum): moisture 65%; fat 23%; binder 3%

wienerli A moist, cooked, smoked Swiss sausage made from finely chopped, medium seasoned beef, pork, and veal and stuffed into sheep or artificial casings

wiener schnitzel Breaded veal cutlet with garnish. Thin slice of veal dipped in eggs, coated with bread crumbs, and fried in butter

wieners, Dutch A moist, cooked, smoked Dutch sausage made from finely chopped, medium seasoned beef and pork and stuffed into artificial casings or not stuffed into a casing

wienerwurst Vienna sausage; frankfurter See also **wiener**

wiener würstchen 1) A moist, cooked, smoked western German sausage made from mildly seasoned beef and pork and stuffed into sheep casings. 2) A moist, cooked, smoked eastern German sausage made from finely chopped, mildly seasoned beef, lamb, and pork and stuffed into sheep casings

wild buckwheat (*Polygonum convolvulus*) An annual weed

wild carrot (*Daucus carota* L.) An annual weed

wild cherry A very sour fruit: used to make jelly and wine. When wilted, a poisonous plant See **choke-cherry**
See Part 2: Poisonous Plants

wild date palm A tropical tree whose sap is obtained and converted into sugar; 3 quarts sap = 1 pound sugar

wild garlic (*Allium vineale* L.) A perennial weed that can contaminate wheat grain; flour may be tainted with garlic odor

wild lemon See **may apple**

wild marjoram See **oregano**

wild mustard (charlock; *Brassica kaber*) An annual weed

wild oats (*Avena fatua* L.) An annual weed See **wild rice**

wild onion (*Allium canadense* L.) Bulbs and leaves are edible and may be used like the domestic herb except they are stronger in flavor. If eaten by cattle they will give an undesirable flavor to both milk and meat. A perennial weed that can contaminate wheat grain and may taint flour with onion odor

wild plum See **Australian native plum**

wild radish (*Raphanus raphanistrum* L.) An annual weed

wild rice (blackbird oats; duck rice; fool oats; Indian oats; Indian rice; water oats; water rice; wild oats; *Zizania aquatica*) The seed of a reed-like water plant and not true rice; it has a dark-colored kernel that is narrow and cylindrical in shape; it is hulled but not milled. An aquatic grass, cooked and eaten like rice. It is hard and takes longer cooking time than brown or white rice; $\frac{1}{2}$ inch long; like all whole-grain cereals, it does not keep well in warm weather; nutlike flavor

1 pound = 15–20 servings

1 cup, raw = 4 cups, cooked

= 5.8–6 ounces

= 8 cooked servings

1 ounce, uncooked = 1 cup cooked

Composition: moisture (dried form) 7–10%; protein (dry matter basis) 15–20%

Raw storage: cool, dry, or in refrigerator; long storage life

Cooked storage: Do not add other ingredients; cover tightly; refrigerate for several weeks or freeze for several months

wild spinach See **mercury**

wild vetch (*Vicia angustifolia* L.) An annual weed

Wiley melting point The temperature at which a solid disk of fat placed in a water-alcohol mixture becomes a sphere as the temperature of the mixture is slowly increased

willow A tree that produces fair firewood; 15 million Btus per cord (20% moisture); medium ease to start; difficult to split; medium smoke; poor coals and few sparks

Wilson-Blair base See Part 2: Microorganism, Media

wilstermarsch A semihard, full cream, tilsit-type cheese

wilte melkaas A panir-type, large (2.5–5 kg) cheese made from cow's milk

wiltinger A white wine

Wiltshire 1) A large, slow-maturing, horned breed of sheep. 2) A derby-type cheese

Wiltshire bacon Cured pork

Wiltshire curing (tank curing) Sides of pork are immersed in a brine containing the curing ingredients

Wiltshire side Half a hog carcass with the head, feet, aitch bone, back bone, tenderloin, and skirt removed; it is cured and smoked before retailing

wind 1) Natural movement of the air due to variations in barometric pressure from one area to another.

	Miles per hour
Calm	less than 1
Light air	1-3
Light breeze	4-7
Gentle breeze	8-12
Moderate breeze	13-18
Fresh breeze	19-24
Strong breeze	25-31
Near gale	32-38
Gale	39-46
Strong gale	47-54
Storm	55-63
Violent storm	64-73
Hurricane	74 and over

2) Breathing capacity of a horse or other large animal

wind chill index A measure of net chilling effect of both temperature and wind

Wind speed (mi/hr)	Temperature (°F)					
	0	10	20	30	40	50
10	-10	0	9	19	29	39
20	-27	-17	-7	2	12	22
30	-43	-33	-23	-13	-3	6
40	-50	-40	-30	-20	-10	0

winding Placing one front or hind foot directly in front of the opposite one in action

windpipe Trachea; passage tube from mouth to lungs

wind scarring Citrus fruit surface injured when fruit is rubbed against the tree; resulting scars reduce the grade of fruit

windsor See **broad bean**

windsor red A cheddar-type cheese that contains red wine

wine An alcoholic drink produced by fermentation of subacid fruit juice by yeast (*Saccharomyces ellipsoideus*) under anaerobic conditions; 30°C and 25% sugar will yield 7-16% alcohol (by volume); alcohol by volume ranges from 7-22%;



The carbon dioxide is usually allowed to escape, but in sparkling wines it is retained. Flavor is affected by: type of grape; climate; soil; winemaker. Alcohol beverage fermented from grape juice (*Vitis vinifera*) or other fruit

Types:

Appetizer—light, highly flavored, 15-20% alcohol; served chilled before dinner or with appetizers and soup, e.g., dubonnet, madeira (dry), sherry (dry), vermouth

Crackling (petillant)—slightly effervescent

Dessert wine—heavy, sweet, 20% alcohol, served with desserts, fruit, nuts, e.g., angetica, bordeaux

(sweet), madeira (sweet or medium), muscatel, port, sauterne (sweet), sherry (sweet or medium), tokay

Dry—low sugar

Fortified—alcohol added; aperitifs before a meal or dessert wine, e.g., madeira, marsala, port, sherry

Medicated—medicament added

Red—fermented with grape skins

Red table wine—dry, slightly tart, astringent, 10-14% alcohol, red wines served at room temperature with heavier entries (meat, pastry) e.g., burgundy, chianti, claret

Rosé—juice remains in contact with skins a few hours; wine should be consumed when it is young

Sour—ferment to acetic acid

Sparkling—sugar is added to wine causing fermentation to begin again and more alcohol and bubbles are produced; 10-14% alcohol, served chilled anytime, with or without food; e.g., burgundy, champagne

Spritzig—still but tastes as if effervescent

Sweet—high sugar

White—juice is separated from grape skins prior to fermentation; pleasant to drink at an earlier stage than red

White table wine—delicate flavor, 10-14% alcohol white wine served chilled with lighter entries (fish, fowl); e.g., Rhine wine, sauternes

Types of wines for various foods:

Aperitif—champagne, dry madeira, or dry sherry

Cheese—burgundy, hock, port, or rich sherry,

Dessert—madeira, port, or rich sherry

Fish—alsatian, champagne, graves, hock, moselle, or white burgundy

Game and meat—claret, red burgundy, red Rhone wines, or firm-bodied hock

Hors d'oeuvre—dry white wine or sherry

Oysters—champagne, graves, moselle, or white burgundy

Soup—dry madeira or dry sherry

Sparkling—red or white, bubbles (carbonic acid gas); e.g., champagne

Sweets—barsac, champagne, a rich hock, or sauterne

Table—wines that normally accompany a meal; may be red, rosé, or white

Throughout the meal—champagne, rosé wine

Serving temperature (change temperature slowly):

Cellar temperature (cooler than room temperature)

Champagne

Sherry

White wine

Chilled—approximately 45°F

Room—stand in serving room for a few hours prior to serving

Warm room

Red wine

Serving temperature:

Champagne—42-46°F

Semisweet white—42-46°F

Sparkling wine—42-46°F

Sweet—42-46°F

Rosé—46-54°F

White—46-54°F

Red (light and fruity) wine—50-54°F

Red (full-bodied) wine—57-62°F

820 wine

1.5 liter bottle = 10 (5 ounce) servings

$\frac{4}{5}$ bottle = 8 (3 ounce) servings

$\frac{1}{2}$ gallon = 21 (3 ounce) servings

Content per 100 cc (20°C): not more than 0.1 g NaCl; not more than 0.2 g potassium sulfate; not more than 0.14 g volatile acids (calculated as acetic) in red wine; not more than 0.12 g volatile acids (calculated as acetic) in white wine; 4.5–10.0 g alcohol in unfortified wine; max. 14.5 g alcohol in unfortified wine; 0.4–1.0 g glycerin in unfortified wine; 0.11–0.44 g ash; 0.5–0.9 g total acidity (calculated as tartaric acid); 0.007–0.009 g nitrogen; pH 2.3–3.8

Storage: 55–58°F; well ventilated; free from drafts; dark; no vibrations; no odors; on side to keep cork damp except spirit bottles should be stored upright; containers should be full to minimize air content

See **pink wine; red wine; rosé wine; white wine**
See Part 2: Flavor Ingredients, Taste and Flavor Type; Minerals (Trace), Limits; Spoilage, Carbohydrate Foods; Wine, Sugar Addition; Wine, Sweet

wine, appetizer Sherry; dry vermouth

wineberry (checkerberry; *Rubus phoenicolasius*)

A berry that is similar to the common raspberry except it is a clump-forming plant and the canes are covered with red hair rather than prickles; the fruit is golden, orange, shiny, and translucent.

wine bottle size Capacity of wine containers

Size	Fl. oz	Cups	Servings per bottle	
			Dinner and sparkling wines (4 oz)	Dessert wines (3 oz)
Fifth, $\frac{4}{5}$ qt, most popular	25.6	3 $\frac{1}{8}$	6	8
Tenth, $\frac{4}{5}$ pt, $\frac{1}{2}$ bottle	12.8	1 $\frac{1}{2}$	3	4
Half-gallon bottle or jug	64	8	16	21
Gallon bottle or jug	128	16	32	42
Large bottles			Capacity compared to 25.6 oz bottle	
Magnum			2	
Double magnum (jeroboam)			4	
Rehoboam			6	
Methuselah			8	
Salmanazar			12	
Balthazar			16	
Nebuchadnezzar			20	

A tappit hen is 3 imperial quarts

Wine Cellar of the Holy Roman Empire See **rheinfalz**

wine, dessert Examples are champagne, cream sherry, madeira, muscatel, port, and tokay

wine glass A measure of volume

1 wine glass = 4 tbsps
= 2 fluid ounce
= 100 grams of wine
= 60 milliliters

2 wine glasses = 1 gill

wine palm See **palm**

wine, red table Examples are bordeaux, burgundy, cabernet sauvignon, chianti, and claret

winery name a listing on a wine label that indicates the winery where the wine was produced

Winesap A variety of apple in season from January to June; it is a good cooking and eating apple. See also **Stayman Winesap**

wine spirits Distillation product of fermented grape juice

wine vinegar Grape vinegar See **wine (grape) vinegar**

wine vinegar (grape vinegar) The product made by the alcoholic and subsequent acetous fermentations of the juice of grapes

wine, white table Examples are chablis, chardonnay, sauterne, and zinfandel

wing drummette Consists of the humerus of a poultry wing with adhering skin and meat attached

winged bean (*Psophocarpus tetragonolobus*) A twining, perennial plant whose green pods, leaves, and tubers are used as vegetables and whose dry seeds are used as a pulse; also grown for green manure and forage

winged pea See **asparagus, pea**

wings Includes the entire wing with all muscle and skin tissue intact, except that the wing tip may be removed

winkle (periwinkle; *Littorina littorea*) A shellfish; 20% edible (avg. 20% protein) See **periwinkle**

Winnipeg smoke process A cook smoke used for fish

winter apple An apple that keeps well or ripens late

Winter Banana A variety of apple that is good for eating, sauce, and pies

winter barley Barley sown in autumn

winter carp (bigmouth) A food fish

winter cherry See **gooseberry**

winter cress (rocket; *Barbarea vulgaris*) An herb of the water cress family; a mustard-type plant used as a salad

winter flounder (*pseudopleuronectes americanus*) A white meat, light to moderate flavor, food finfish

wintergreen (checkberry extract; methyl salicylate; *Gaultheria procumbens*) A flavoring material (fresh leaves, extract, and oil) used in confectionery (e.g., candies, chewing gums)
See Part 2: Essential Oils; Flavor Ingredients, Taste and Flavor Type

winter greens Kale and turnip tops See **Kale**

winterization (wintering; winterizing) A method of treating fats and oils in which the higher-melting fractions are removed by cooling, crystallization, and filtering; the resulting oil remains clear at low temperatures. A salad oil should be clear after $5\frac{1}{2}$ hours at 32°F

winter melon See melon

winter pear A pear that keeps well or ripens late

winter sweet See oregano

winter wheat Wheat sown in autumn and harvested in the summer

wipe To remove excess solder

wire See Part 2: Mesh Sizes

wire grass See Bermuda grass

wireworm (click beetles; snapping beetles; numerous species) 1) Hard, wirelike worms; slender, hard-shelled, tan to dark beetles; $\frac{1}{8}$ - $\frac{1}{2}$ inch long
Control: insecticides diazinon and fonofos

2) The larvae of the click beetle, which will eat the seed, crown, roots, and stems of wheat. 3) An insect that may be found feeding on sugar beet roots. 4) A light brown, wiry looking insect that bores into seed or stem of corn and causes failure to germinate; older plants may wilt and die

wirra wirra A white wine

Wisconsin cheese A mild to sharp (green-veined), light to orange color, firm cheddar cheese

wishbone Furcula bone of the fowl; supports the crop
See Part 2: Bone

wishbone poultry (pulley bone) With covering muscle and skin tissue, shall be severed from the breast approximately halfway between the end of the wishbone (hypocleidium) and front point of the breastbone (cranial process of the sternal crest) to a point where the wishbone joins the shoulder; neck skin shall not be included with the wishbone

wisniak A cherry brandy

wisniowka A cherry brandy

witch flounder (*glyptocephalus cynoglossus*) A food fish; a white meat, very light, delicate flavor finfish

witch sole (pole dab) A flat-type, food fish

withania A rennet cheese that is flavored with withania berries

wither 1) Top of a horse's shoulder. 2) Of a plant, to lose sap or juice

with other natural flavors (WONF) A characterizing natural flavor plus other natural flavors used to intensify or augment

without engagement A phrase incorporated into a quotation used to avoid accepting an order at the price quoted

witloof Solid head of witloof chicory (French endive); solid head formed from the leaves of forced chicory roots

witloof chicory See chicory; French endive

WL differential agar See Part 2: Microbiological Media

WL nutrient agar See Part 2: Microbiological Media

wok A shallow oriental cooking pan

wolffish (*Anarhicas lupus*) A white meat, light to moderate flavor, Atlantic, food finfish See catfish

wolfram See tungsten

Wolf River A variety of apple that is fair for eating but good for baking and pies

Wolin-Bevis agar See Part 2: Microorganism, Media

wolska A semidry, cooked, smoked Polish sausage made from fine or medium chopped, medium seasoned beef and pork with plasma added and stuffed into sheep casings

WONF See With other natural flavors

wong bok See chinese cabbage; petsai

wong-nga-bok See chinese cabbage

wood A mixture of cellulose and lignin. Cells called xylem make up the major portion of a tree stem and branches

1 cord = 128 cubic feet
= 3.625 cubic meters

1 pound = 8,600 Btus

See also xylem

wood alcohol See methyl alcohol

wood almond (*Hippocratea comosa*) A plant yielding an edible seed and oil

wood ashes A potash fertilizer; alkaline; contains approximately 7% potash; wood ashes from lime kilns (limestone is burned) are as valuable for liming as pulverized limestone and also contain some potash, phosphorus, and many minor elements. A material that can be used for liming and contains 45% CaCO₃; each pound has the neutralizing equivalent of 0.4-0.5 pounds of CaCO₃ (or approximately this quantity of dolomitic limestone).

See Part 2: Fertilizer Materials; Liming Materials

wood fiber board See Part 2: Insulation

wood nut Filbert

wood rosin Rosin remaining after the distillation of steam-distilled wood turpentine

woodruff A sweet herb used to flavor confections and beverages

wood sorrel A weed whose leaves are used in salads and roots are used like parsnip

wood spirits See methyl alcohol

wood sugar See xylose

wood tar Tar obtained by destructive distillation of wood

wood turpentine Turpentine produced from wood; it includes steam-distilled wood turpentine and destructively distilled wood turpentine

woody Tainted wine caused by a rotten cask or by remaining in the cask too long

woo-fan Lunch

wool Crimped fiber produced primarily by sheep; it is principally keratin protein; 1 pound greasy domestic shorn wool = 0.45 pounds scoured wool

See Part 2: Insulation; Insulation, Conductivity Values; Moisture in Biological Materials; Titer, Fats and Oils

wool fat Wool grease *See lanolin; yolk 2)*

wool grease *See lanolin; yolk 2)*

wooly pear aphid (*Eriosoma pyricola*) An aphid found on pears

wool yield

$$\text{yield} = \frac{\text{clean (scoured) wool wt}}{\text{grease wool wt}} \times 100$$

$$\text{yield} = 100 - \% \text{ shrink}$$

$$\text{scoured value} = \frac{\text{grease wool price}}{\text{yield}}$$

$$\text{grease wool value} = \text{scoured value} \times \text{yield}$$

wor Cooked in a pot, e.g., soup

worcester berry A hybrid of gooseberry and black currant

worcestershire sauce A pungent, dark-colored meat sauce with suspended particles; a fermented (4–6 months), strained, pasteurized product containing anchovies, chili peppers, eschalots, flavorings, garlic, lime juice, molasses, onions, salt, soy or soybeans, spices, sugar, tamarinds, and vinegar

Composition: sodium 206 mg per tablespoon (17 grams)
See Part 2: Sauce, Worcester

word processing system A text editing typewriter and printer with magnetic disc storage

Worfel-Ferguson agar *See Part 2:* Microorganism, Media

World Bank Made up of International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD); offices at 1818 H Street N.W., Washington, DC 20433

World Health Organization (WHO) A branch of the United Nations concerned with international health problems. Its interest is in maintenance of nutrition, wholesomeness of foods, and consumer health. Headquartered in Geneva.

wormwood (mugwort; old woman; *Artemisia absinthium*) A perennial, bitter, astringent herb of the daisy family that is used in flavoring liqueurs, vermouth wine, and tea; it has a bitter taste *See absinthe*

wormwood oil An oil sometimes referred to as absinth oil

worn A wine that has been aged too long

worsted cloth A high quality, woolen fabric

wort 1) In beer manufacture, the clear liquid left after straining the mashed grain and malt; infusion of plant to be fermented; contains maltose. Extract of malt, made from mash and used in brewing beer; liquid portion (malt sugar and soluble extracts from malted mash) of malted grain. 2) A plant of the cabbage family. 3) An aromatic herb *See beer*

wort agar *See Part 2:* Microorganism, Media

worts huckleberry *See bilberry*

WP Weather permitting

wrapping material Material (e.g., fabric, paper, film) to cover, enclose, or enshroud food
See Part 2: Plastic Permeability

wrasse (various species of *Labridae*) A European food fish; a bony, tropical food fish

wreckfish (stone bass) A food fish

wrinkle A waviness in the cover hook from which the tightness of the double seam is determined

Wuchu A large, slate gray, draft and milk-producing water buffalo originated in Hupeh (Hubei, central China) province, China

wunderpilz Teekvass

wurld wheat Wheat in which the bran is chemically (sodium hydroxide and steam) peeled, scoured, acid-neutralized, and dried; it is lighter in color, higher in cost, and less nutritious than bulgur

wurst Sausage

wurstchen A fine to medium chopped, cooked, smoked or unsmoked, American sausage available in medium to large diameter links or large diameter casings for slicing

würstchen nach debrecziner art A moist, cooked, smoked eastern German sausage made from medium chopped, heavily seasoned beef and pork and stuffed into pork casings or not stuffed into a casing

Württemberg A region in east central Germany that produces pleasant red and white wine

wurz Spice or seasoning

wusih *See hu-yang*

Wyandotte An American class of chickens that lays a light-brown egg and has a rose comb.

Wyandotte varieties	Plumage color	Shank	Beak
Black*	Greenish black to slate	Male, yellow; female, light yellow	Yellow
Buffe*	Even buff color	Yellow	Yellow
Columbian*	Mostly white; neck and tail feathers black with white lacing	Yellow	Yellow
Golden-laced	Same as Silver with white replaced by golden	Yellow	Yellow

(Continued)

Wyandotte varieties	Plumage color	Shank	Beak
Partridge*			
Female	Neck and back feathers black with red lacing; rest of body slate	Light yellow	Yellow
Male	Neck and back feathers green-black with red edging; rest of body slate	Yellow	Yellow
Silver-laced*			
Female	Black and white lacing over most of body; tail and undercoat is darker	Yellow	Yellow
Male	Back white; neck is black with white lacing; body white edged in black; tail feathers black and undercolor slate	Yellow	Yellow
Silver-penciled*			
Female	Gray with black penciling, gives lacy appearance	Light yellow	Yellow
Male	Neck and back white with black edging of feathers; rest of body black with some white	Yellow	Yellow
White*	White	Deep yellow	Yellow
*Have bantam varieties			

See Part 2: Poultry Breeds and Varieties

X

χ^2 (chi-square) A skewed distribution that shows the lack of agreement between data and hypothesis; sum of (deviation squared/expected number)

xanthan gum A high-molecular-weight, polysaccharide, hydrocolloid gum produced by a submerged, aerobic fermentation; obtained from microbial *Xanthomonas campestris* and used in many foods as a bodying agent, food emulsifier, form enhancer, plasticizer, stabilizer, suspending agent, or thickener. This gum is very enzymatic resistant, very pseudoplastic, and shows little change in viscosity with salt, pH, and temperature.

Storage: tight container

xanthia cocktail A brandy, wine, and gin cocktail

xanthine oxidase (Schardinger's enzyme) An oxidative enzyme found in milk and liver

xanthophyll (lutein, luteol) ($C_{40}H_{56}O_2$) A yellow pigment found in plants, egg yolk, and butter; an hydroxy carotene derivative

xanthoproteic test A general but not very sensitive test for protein; a yellow color is formed when concentrated nitric acid comes in contact with tyrosine and tryptophan; all common proteins if present in large quantities give a positive test.

See Part 2: Protein and Amino Acid, Color Reactions

xarque See **jerked beef**

x axis See **abscissa**

X chromosome A sex chromosome that carries the female characteristics

X disease 1) A disease found in birds that are fed moldy peanuts; caused by aflatoxins. 2) A cherry tree disease that causes sparse, light green, foliage and a failure of the fruit to ripen

Xe Symbol for the element xenon

xenon (Xe) A relatively inert gaseous element; at. no. 54; at. wt. 131.30; noble gas group of Period Table; oxidation state 0

electron configuration 2-8-18-18-8;
orbit K L M N O

xeres cocktail A sherry and bitters appetizer

xerophagia Consuming dry food

xerophthalmia A total ocular syndrome associated with vitamin A deficiency, including keratomalacia

xi (Ξ , ξ) Greek letter with an English equivalent of x

ximenia (mountain plum; wild lime) The edible, fruit of a small, tropical plant

xiphoid cartilage Tip of breastbone

XL agar See Part 2: Microorganism, Media

XLD agar See Part 2: Microbiological Media; Microorganism, Media; Microorganism, Selective and Differential Broths and Media, Water Filtration Plant

X-ray High-frequency electromagnetic radiation produced when high-energy-charged particles (e.g., electrons) strike a suitable target. Electromagnetic radiation with a wavelength of 5×10^{-7} to 6×10^{-10} cm

xylan ($C_5H_8O_4$)_n A hemicellulose found in many plants (corn cobs, oat hulls, woody parts of plant); it will hydrolyze to xylose

xylem Cells from which wood is developed See also **wood**

xylitol A sugar alcohol that is made from a part of the birch tree and is about as sweet as sucrose; has received some negative research reports. Used to artificially, sweeten chewing gum

xylose (wood sugar) ($C_5H_{10}O_5$) A five-carbon monosaccharide (pentose) found in fibrous materials; a sugar 40% as sweet as sucrose; used as a diabetic food

See Part 2: Sugar, D-aldehyde

Y

Y Symbol for the element yttrium

yabra A sweet, cloudy white wine made from wild, data palm sap

yachtwurst See **jagdwurst**

yagioo A rice wine

yahourtt Yoghurt

yak Large (500–800 pounds), black, black and white, brown, and brown and white animals related to the American bison found in the mountainous regions of central Asia. Used as a pack animal (can carry up to 300 pounds) in snow and in swamps; also for fiber, hides, meat, and milk; meat is coarse-grained and dark in color; milk contains 6% fat.

Fiber yield: 2.25 pounds of hair and 1.25 pounds of finer fibers per year

yakeyake A steamed, cassava bread

yaki Fry

yakiniku Barbecue-style beef

yakitori Skewered, grilled chicken

yakju A rice wine

yakult A soft gel, coagulated (moderately acid), cow's milk

yam (Indian potato; true yam—*Dioscorea* spp.)

A term sometimes used to describe any tropical root crop; in the United States, same (mistakenly) as sweet potato (*Ipomoea batatas*); the true yams, however, are actually unrelated to sweet potatoes, taros, and tanniers; resembles a sweet potato but is longer and is a tuberous root of a different plant; in southern U.S. sweet potatoes are often called yams, particularly the moist fleshed varieties.

D. alata (greater yam)—Asia

D. rotundata (white; Guinea yam)—Africa

D. trifida—America

280 days average growth period.

Type:

Air Potato (*D. bulbifera*)—small tuber in axils of leaves

Birch Rind (*D. aculeata*)—large tuber; good flavor
Chinese or Cinnamon Vine (*D. divaricata*)—very deep tuber

Small (*D. fasciculata*)—small tuber

Tivolo (*D. nummularia*)—large tuber; good flavor

Very Small (*D. triloba*)—very small tuber; good flavor

White (*D. alata*)—very good flavor

The *Dioscorea* produces a tuber with a white or yellow flesh; white to reddish skin color; the tuber is cooked and usually mashed but it can be roasted, baked, boiled, steamed, fried, or dried into flour; it is high in starch and low in protein

Composition: moisture 74%; protein 2%; fat 0.2%; carbohydrate 15–25%; ash 1%

Edible energy value 4.4 MJ kg⁻¹

See also **sweet potato**

See Part 2: Minerals, Food; Starches and Starchy Roots Composition; Vegetable Storage

yam bean (*Pachyrrhizus tuberosus*) A plant that produces both edible tubers and seeds or pods

yam bean, African (*Sphenostylis stenocarpa*) A twining, perennial whose tubers are eaten (fresh and cooked) and dry seeds are used as a pulse

yam bean, Mexican (potato bean; manioc; *Pachyrrhizus erosus*) A leguminous plant that produces both edible tubers (eaten raw or cooked) and greenpods (used as vegetable); ripe seeds are reputedly toxic

yam, Chinese A large, thick-rooted tuber similar to the sweet potato

yaourt, yourt A fermented milk See also **yogurt**

yapon (South Sea Island tea) A type of holly used as tea

yarbs An ancient term for herbs

yard (yd) A measure of length

1 yd = 914.4 millimeters (mm)

= 91.440183 centimeters (cm)

= 36 inches (in.)

= 3 feet (ft)

= 0.91440183 meter (m)

= 0.18182 rod (rd)

= 0.0009144 kilometers (km)

= 0.0005682 statute mile

= 0.0004934 U.S. nautical mile

5½ yards = 1 rod

yardlong bean See **asparagus, pea**

yaro See Part 2: Starches and Starchy Roots Composition

yarobu kunya A millet or sorghum beer

yarow (milfoil; nosebleed; thousand leaf) An herb used in medicine; aromatic herb whose leaves are used in flavoring; fresh scented herb used as a substitute for chervil

yashi zake A sweet, cloudy, white wine made from palm sap

yatay palm See **palm**

yauta See **calalu**

yautia (New Coco Yam) Edible tubers of a tarolike plant See **tannia**

See Part 2: Starches and Starchy Roots Composition

yava See **ava; kava**

y axis See **ordinate**

yayin Wine

Yb Symbol for the element ytterbium

Y chromosome A sex chromosome that carries the male characteristics

yea To lamb

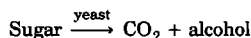
yearling An ovine animal (sheep) from 1-2 years of age that has two permanent incisor teeth; an animal in its second year *See break joint*

See Part 2: Bone Age; Sheep Market Classes and Grades

yearling hen Female turkey between 7 and 15 months old

yearling tom Male turkey between 7 and 15 months old

yeast (*Saccharomycetaceae* fam.) A single-celled microscopic plant that divides or reproduces by budding. A microscopic plant that can convert sugar to carbon dioxide and alcohol; types of fungi, some of which are pathogenic



Used as a leavening agent in foods and to induce alcoholic fermentation (alcohol may be further converted into acid) and vitamin B production. Optimum temperature for reaction (not storage) 82°F. Produces the enzymes invertase and symase. Starter inoculum is available fresh pressed, active dried, or fresh frozen form; *Saccharomyces cerevisiae* is used in bread.

Baker's yeast—used to make bread and as a dietary supplement (50% protein)

Brewer's yeast—used to convert sugars to alcohol and as a dietary supplement for B vitamins

Composition	Irradiated, dehydrated	Torula, dehydrated
Dry matter (%)	94	93
Protein (%)	48	49
Fat (%)	1	1.6
Fiber (%)	6	2
Ash (%)	6	7.7

Yeast and molds are counted with potato dextrose agar or potato glucose agar, acidified *See brewer's yeast; compressed yeast; dry yeast*

See Part 2: Bacteria, Molds and Yeasts; Canned Spoilage Manifestations; Canned Spoilage Related to pH; Culture Media; Egg Specifications; Microbiological Media; Microbiological Standards, Dairy; Microorganism, Culture Media, Dairy and Food Products; Microorganism, Media; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Nicotinic Acid, Food; Pantothenic Acid Content; Riboflavin, Food; Rot Spoilage; Thiamin, Food; Water Activity, Organisms and Food

yeast and mold Types of fungi usually in the soil that can contribute to food spoilage

yeast, baker's (*Saccharomyces cerevisiae*)

Composition (Baker's dry): sodium 1 mg per package (7 grams)

yeast, dried brewer's An inactivated (dead) form of yeast used as a food supplement for iron and B vitamins

yeast extract Made from brewer's yeast and spread on bread or used in a beverage

yeast, malt sprout extract A food additive used as a flavor enhancer

yellow berry *See cloudberry*

yellow blight *See stem rot*

yellow bullhead (*Ictalurus natalis*) A food fish

yellow cake *See Part 2: Baked Products, Frozen Storage Life*

yellow cure *See amarelo cure*

yellow dhal *See pigeon pea*

yellow dwarf A virus that causes stunting of both plants and roots of the sweet potato

yellowfin (tuna; *Thunnus albacora*; syn. *Neothunnus macropterus*) A food fish *See grouper; tuna*

yellowfin sole (*Limanda aspera*) A food fish

Yellowhammer Small, mixed-breed of yellow cattle

Yellow Jersey A dry, mealy variety of sweet potato

yellow mombin *See ambarella*

yellow-necked caterpillar An insect that has yellow and black stripes on its body, is up to 2 inches long, and has a collar of bright yellow just behind the head. The young larvae skeletonize leaves; older larvae eat the entire leaf

yellow No. 5 A FD & C food color additive

yellow perch *See lake perch*

yellow pike A food fish *See walleye*

yellow pine *See Part 2: Poisonous Plants*

yellow prussiate of soda Sodium ferrocyanide [$\text{Na}_4\text{Fe}(\text{CN})_6 \cdot 10 \text{H}_2\text{O}$]. A food additive used as an anticaking agent

yellow rocket (*Barbarea vulgaris*) An annual weed

yellow 1) A virus disease of strawberries that dwarfs the plant and affects the leaves; the plants produce few runners. May be controlled by planting virus-free stock and using insecticides. 2) A disease of sour cherry trees that causes yellow mottling of older leaves and small crops of large fruit. No cure

yellow spider mite (*Eotetranychus carpini borealis*) A pest of pear; the adult in winter is yellow or orange and when feeding, yellow to green with 2 dark spots; they spin webs that damage foliage and interferes with normal fruit development; damaged foliage is bronze in appearance

yellow star thistle *See Part 2: Poisonous Plants*

yellowtail (amberfish; white meat fish) A food fish of the mackerel family that resembles a tuna and is canned in the same manner

Atlantic—*Seriola lalandi*

Australia—*Trachurus declivis*

See flounder

See Part 2: Vitamin D, Fish

yellowtail flounder (*Limanda ferruginia*) A northwest Atlantic, white meat, very light delicate flavor, food, finfish

yellowtail snapper A white meat, very light delicate flavor, finfish

yellow tip See **endoxerosis**

Yellow Transparent A variety of apple that is in season in July and August that makes excellent sauce and good pies but is only fair for eating due to acid content

yelt See **gilt**

yen-tsai Pickled vegetables

yeolmu-kimchi (**yulmoo kimchi**) Acidic, carbonated, young, oriental radish

yerba de maté See **maté**

yerba-de-pasmo See Part 2: Poisonous Plants

yerba santa (bear's weed; gum bush; mountain balm) An evergreen shrub used as an herb

yerevansky A white, brined cheese made from sheep's milk

yaourt Yogurt

yield The amount of useful product obtained from a planting or growing operation or quantity remaining after treatment See also **wool yield**

See Part 2: Beef Retail Yield; Fish Yields; Fruit, Dried, Simmering; Fruit Frozen Yield; Fruit Sauces; Fruit, Simmering; Lamb Yield; Nutrients in Crops; Pork Carcass, Retail Yield; Pork Cooking Yield; Pork Yield; Poultry Yield; Sugar Beet Yield; Vegetable Frozen Yield; Vegetable Yield, Canned and Frozen; Vegetable Yield, Frozen, Canned and Fresh; Vegetable Yields; Yield Grade Meat

yield grade Grade to identify carcasses with different amounts of boneless or closely trimmed retail cuts; shield-shaped stamp on beef carcass used to indicate yield of trimmed retail cuts

See Part 2: Beef Carcasses, Yield Grade

yilt See **gilt**

yin wo Bird's nest

ylang-ylang oil (**cananga oil**) An essential, yellow oil with a floral odor obtained from a plant grown in the Philippines

See Part 2: Essential Oils; Flavoring Agents, Natural

YM agar See Part 2: Microorganism, Media

ymer Thick, ropy, fermented, low-medium acid, cow's milk

yoghourt Same as yoghurt or yogurt

yoghurt, drinking Sour, diluted milk

yogurt (**yoghoort**; **yoghourt**; **yoghurt**; **yogourt**; **yogurt**) Same as yoghurt; yoghurt; curds. A custardlike product made by fermenting (*Lactobacillus acidophilus*, *Lactobacillus bulgaricus*, and *Streptococcus thermophilus*), homogenized, pasteurized, low-fat milk or concentrated whole or skimmed milk; may be enriched with nonfat dry milk solids. Fruits or flavors are often added. Semithick, fermented, sour (pH 4-4.5), buffalo's, camel's, cow's, goat's, sheep's, or water buffalo's milk

Style:

Frozen form

Sweetened and fruit flavored

Sundae—fruit at bottom

Swiss—fruit distributed throughout

1 pint = 2 cups

1 cup = 250 grams (8.7 ounces)

Composition	Fruit varieties		Skimmed milk	Whole milk
	low fat	low fat		
Moisture (%)	74-75.3	75.3	89	87-88
Protein (%)	4.0-4.4	4-4.9	3	3-3.5
Fat (%)	1.1-1.4	1.4	2	3.2-3.4
Carbohydrate (%)	18.5-19	18.5-19	5	4.7-5
Fiber (%)	0.1	0.1	0	0
Ash (%)	1	1	1	0.7-1
Calories (per cup)			125	140

Composition (per cup): sodium 105-174 mg; calcium 272 mg; cholesterol (low-fat yogurt) 17 mg

Storage: refrigerate; if separation occurs, stir liquid back into yogurt. Store frozen (if unopened) for up to 6 weeks; defrost at room temperature 3 hours

See Part 2: Calcium Equivalence for Milk; Cultured Dairy Products, Composition; Dairy Terms; Fluid and Fermented Milks, Composition; Milk and Milk Products, Vitamin Content; Vitamin A, Milk and Milk Products

yogurt, frozen Made from yogurt, skimmed milk, and fruit or flavoring and sweeteners; low in milk fat and has less sugar and less calories than ice milk

yogurt, plain

Composition	Low fat	Plain	Skimmed milk
Moisture (%)	85.1	87.9	85.2
Protein (%)	5.2	3.5	5.7
Fat (%)	1.5	3.2	0.2
Carbohydrate (%)	7.0	4.7	7.7
Ash (%)	1.1	0.7	1.2

Protein per 8 ounce serving: low-fat 12 grams; plain 8 grams; skimmed milk 13 grams.

yolk 1) The yellow mass of stored food found in the inner portion of an egg of a bird; the cellular nucleus of an egg. 2) Wool grease (yolk). A natural oil or grease found on sheep fleece that helps to preserve it; source of lanolin

See Part 2: Egg Structure; Egg Volume

yolo A nonalcoholic, sour drink made from maize

Yom Kippur A solemn Jewish holiday; the day of atonement; no food or drink is consumed for 24 hours

yonezu Rice vinegar

York A creamy, full-fat, soft, unsalted cheese made from cow's milk

York ham A smoked, country-cured style of ham produced in England

York Imperial A variety of apple that is in season from November to March; is a good sauce apple; a fair to good cooking and eating apple

Yorkshire (large white) A bacon-type hog originating in northern England by crossing the Large Yorkshire with Leicester and later crossing with Middle

828 Yorkshire (large white)

and Small Yorkshire; its color is solid white and it has erect ears and a long body

See Part 2: Swine Breeds

Yorkshire pudding A batter, pancakelike, mixture of eggs (2), flour (1 cup), and milk (1 cup), baked in meat fat

Yorkshire stilton See **cotherstone**

yosenabe A meat, vegetable, and egg soup

young American A shape of cheese: diameter, 6–7 inches; height, 7–8 inches; weight, 9–11 pounds

youngberry A large dull red (black when ripe) berry that is a hybrid between blackberry and dewberry. Low growing trailing vines produce large, sweet, wine-red, colored fruit. Used for desserts, freezing, and jams

Frozen style—whole, with or without sugar or syrup

Canned style—with syrup or with water (for pies)

1 crate (24 quart), fresh = 32–36 pints, frozen

1 pint, frozen = $1\frac{1}{3}$ – $1\frac{1}{2}$ pints, fresh

See Part 2: Fruit Frozen Yield

youngberry, canned In addition to youngberries, may also contain natural and artificial flavors

Sucrose in syrup (%)

Extra light—< 14

Light—14–19

Heavy—19–24

Extra heavy—24–35

young hen Female turkey that is 5–7 months old

young sheep Have 1–4 permanent incisors

young tom Male turkey that is 5–7 months old

youthful Young; immature

you-you An orange-juice-flavored, syrup-coated, wheat flour doughnut

YPC broth See Part 2: Microorganism, Media

ytterbium (Yb) A rare earth element of the lanthanide series; at. no. 70; at. wt. 173.04; Group IIIB of Periodic Table; oxidation states +2, +3
electron configuration 2–8–18–32–8–2;
orbit K L M N O P

yttrium (Y) A metallic element; at. no. 39; at. wt. 88.91; Group IIIB of Periodic Table; oxidation state +3
electron configuration 2–8–18–9–2;
orbit K L M N O

yu Fish

yubileynaya osobaya A brandy- and honey-flavored vodka

yuca See **cassava**

yukiwari-natto Strong flavored, long (12–15 days) fermentation, dark brown soybeans in dark brown paste

yule log A log-shaped cake covered with chocolate

yulmoo kimchi See **yeolmu-kimchi**

yunnan ham Red, country ham

yu tiao A wheat flour doughnut

yuzu Japanese grapefruit

zabadi Yogurt

zabaglione A thick, light drink made from eggs, sugar, and wine or fruit juice

zabaglione (zabaione) A rich custard, containing egg yolk, sugar, and marsala

zagarolo A dry or slightly sweet white wine

zakousot A camembert-type cheese made from cow's milk

zakroczyska A moist, uncooked, smoked Polish sausage made from coarsely chopped, medium-seasoned pork stuffed into artificial casings

zamlaricos See **kapestoes**

zanzibar cocktail An appetizer made with gin, vermouth, lemon juice, sugar, and bitters

zaodan A pickled egg; the shell is cracked and the egg preserved for 4–5 months.

zapallito A mahogany-colored gourd with yellow flesh

zapota See **sapodilla**

zarf A metal holder for coffee cup

zaw-fan Breakfast

zdenka A processed cheese

zearalenone A sex hormone produced by several species of the *Fusarium* (e.g., *F. roseum* and *F. graminearum*); it is a mycotoxin.

zeaxanthin A carotenoid pigment used in food coloring

zebu (*Bos indicus*) An Asiatic ox with one or two humps of fat on the shoulder See also **Brahman**
See Part 2: Beef and Dual-Purpose Cattle

Zebu, South China A breed of light brown, thoracic-humped, draft cattle of southern China

zein An alcohol-soluble protein obtained (2.5–10%) from corn (*Zea mais*); contains little lysine or tryptophan

zell A white wine

ZENDOREN National Federation of Dowa Meat Retailers Association

Zenker's fixing fluid A fixative that may be prepared as follows:

1. Mix together
 - 2.5 g bichromate of potassium
 - 5.0 g bichloride of mercury (a corrosive sublimate; handle with glass)
 - 1.0 g sodium sulfate
2. Dissolve in 100 ml water with aid of heat.
3. Add 5 ml glacial acetic acid when ready to use. Used in the following manner:
 1. Use 90 times as much fluid as tissue.
 2. Fixing time 30 min to 36 hr depending on density of tissue

3. Wash in running water 12 to 24 hr

4. In alcohol:

35%—20 minutes

50%—20 minutes

70%—20 minutes

5. Remove mercuric crystals (may be done now or after cutting tissue) by treating with dilute iodized alcohol for 30 min and then washing in 70% alcohol.

Add iodine to alcohol (to port wine color).

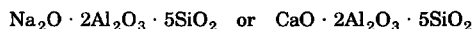
Renew iodine when color disappears (usually 12–36 h).

Wash in 70% alcohol until no more I_2 is extracted.

ZENNIKUREN All-Japan Meat Industry Co-Operative Association

ZENYUREN Pan-Japan Imported Meat Industries Co-Operative Association

zeolite An ion-exchange medium



zephiran (benzalkonium chloride) An ammonium detergent that is effective as a disinfectant; a cationic surface-active agent; the concentrations 1:1000 to 1:5000 are often used.

zero milk Milk produced on protein-free feed using urea and ammonium salts as the nitrogen sources

zervelatwurst A semidry, uncooked, smoked eastern German sausage made from medium-chopped, medium-seasoned beef and pork, fermented and stuffed into beef or artificial casings

zest The outer peel, which is the aromatic, colored portion, of citrus fruit; contains the essential oils

zeta (Z, ζ) The Greek letter with an English equivalent of z

zhum A dried mixture of fermented milk and wheat flour, seasoned with garlic and pepper

zibdeh bellidieh A butter made by churning yogurt

ziega The curd made by adding rennet and acetic acid to milk

ziegel A cheese made from whole cow's milk

ziegenkäse (gaiskasli) A soft cheese made from goat's milk

ziger A ricotta-type cheese made from cow's milk
See Part 2: Milk and Cheese, Composition

zigzag clover (*Trifolium medium*) A perennial legume used for forage

zilavka A dry, fruity, white wine

zinc (Zn) A metallic element; at. no. 30; at. wt. 65.38; Group IIB of the Periodic Table; oxidation state +2; electron configuration 2-8-18-2
orbit K L M N

Containers galvanized with zinc should *not* be used for cooking acidic foods (such as tomatoes, apple sauce, and most fruits): The zinc in contact with acidic foods may form toxic concentrations of zinc salts; also, zinc may contain cadmium, lead, and arsenic, which are potentially dangerous. Zinc can be dissolved by both acids and alkalis and is soluble in many foods; it should not be used in food equipment which comes in contact with food.

Body function: a part of some enzyme systems; required for various vital enzymes to function; in plants, deficiency causes stem and leaf growth to be retarded.

Sources: egg yolks; fish; meat; milk

See Part 2: Chemical Poisoning; Egg Products, Nutritive Value; Grain Analysis; Meat, Nutritive Value; Minerals, Food; Minerals, Plant or Animal Tissue; Minerals (Trace), Limits; Normal Solutions; Nutrients in Crops; pH and Availability of Plant Nutrients; Recommended Daily Dietary Allowance; Water Drinking Standards; Wheat, Minerals; Wheat Products, Composition

zincica A ricotta-type cheese

zinc oxide (flowers of zinc; philosopher's wool; zinc white) (ZnO) Used as a food nutrient and as a fertilizer

See Part 2: Fertilizer Materials

zinc oxide can coating (C-enamel can coating; corn can coating) A coating material made using 15% lead-free zinc oxide added to enamel to prevent the formation of black iron sulfite

zinc sulfate (ZnSO₄) Used in food as a nutrient or dietary supplement

Storage: tight container

See Part 2: Fertilizer Materials; Normal Solutions

zinfandel A dry, rich, aged, red wine

zingerone An artificial flavoring

Zingiberaceae See Part 2: Vegetables, Classification

zirconium (Zr) A metallic element; at. no. 40; at. wt. 91.22; Group IVA of the Periodic Table; oxidation state +4;

electron configuration 2-8-18-10-2
orbit K L M N O

zitoni See **macaroni**

zitoni rigati See **macaroni**

zlato A medium-flavored, semisoft cheese made from goat's or ewe's milk

Z-line A dark line that bisects the I-band in muscle fibers

zmitek A ricotta-type cheese

Zn The symbol for the element zinc

zoa- A prefix used to indicate animal

zoi- A prefix used to indicate animal

zombie A potent drink that is made using several types of rum

zonate leaf spot See Part 2: Sorghum Diseases

zoo- A prefix used to indicate animal

zoom A clear, mildly alcoholic, sorghum beer

Zr The symbol for the element zirconium

zsirpi A panir-type cheese

zu A rice beer

zubda Butter

zubrovka A green, buffalo-grass-flavored vodka

zubrowka A drink made by flavoring vodka with zubrowka grass

zucchini (cocozele; courgette; Italian squash; marrow; zucchini) A mild-flavored summer variety of dark green, cucumber-like (4-18 in. long) summer squash

To cook: boil and mash; cut into pieces and French fry; sauté

1 med. zucchini = 2 cups, cut in julienne strips
= 0.67-1.3 cups, shredded
= 1-2 cups, thinly sliced
= 0.33 lb

1 small zucchini = 7 in. long
= 1 cup, shredded
= 1 cup, sliced, $\frac{1}{4}$ in. thick

1 cup, thinly sliced = 0.25-lb zucchini

1 serving = $\frac{1}{2}$ lb

See also **marrow**

zulotaya osen A Caucasian damson, apple, and quince liqueur

zulu nut See **chufa**

zungenblutwurst A moist or semidry, cooked, smoked or unsmoked Swiss sausage made from medium- or coarse-chopped, medium-seasoned beef and pork stuffed into beef, pork, or artificial casings, or not stuffed into casings

zungenwurst 1) A moist, cooked, unsmoked eastern German sausage made from fine- or coarse-chopped, medium-seasoned pork stuffed into beef, pork, or artificial casings. 2) A moist, cooked, unsmoked Irish sausage made from coarsely chopped, medium-seasoned pork stuffed into artificial casings. 3) A moist, cooked or uncooked, smoked Swiss sausage made from coarsely chopped, medium-seasoned pork stuffed into beef or artificial casings

zuppa Soup

zuppa inglese A sponge cake made with custard and flavored with rum or liquor

zure zult hoofdkaas A moist, cooked, unsmoked Dutch sausage made from coarsely chopped, medium-seasoned beef and pork, with head meat, stuffed into beef or artificial casings

z value The slope of the curve when the logarithm of decimal reduction time is plotted against temperature (in degrees Fahrenheit) See also **decimal reduction time**

See Part 2: Thermal-Death-Time Curve

zweetworst Salami

zwetschenwasser A clear plum brandy

zwieback (rusk) 1) A wheat-flour rusk

3 oz = 1 cup, finely crushed

2) A loaf, made from milk, butter, and eggs [often sweetened (with sugar) and flavored (with lemon and cinnamon)], that is baked, sliced, and toasted

1 cup = 4 slices, coarsely crumbled

= 9 slices, finely crumbled

See rusk

zwiebelleberwurst A moist, cooked, smoked eastern

German liver sausage made from fine- or medium-chopped, heavily seasoned pork stuffed into pork or artificial casings

zwirn *See leaf cheese; telpanier; tschil*

zwuczajna A moist, cooked, smoked Polish sausage made from medium chopped, medium seasoned beef

and pork with textured vegetable protein added and stuffed into beef, pork, or artificial casings

zwyczajana A semidry, cooked, double-smoked Polish sausage made from medium chopped, medium seasoned beef and lamb and stuffed into a pork casing

zygo- A prefix meaning yoke or connection

zygote A fertilized ovum

zym- A prefix meaning ferment

zymase A yeast enzyme that converts sugar (glucose and fructose) into alcohol and CO₂

zymogen A precursor of active enzymes

zymurgy Fermentation chemistry